

GLOSSARY of British Scientific English Grammar and Style

Part 1 Foreword

[Part 2 Glossary](#)[Part 3 Grammar and Style](#)[Part 4 Technical Information](#)*Introduction to the glossary*

Reviewers of manuscripts get to read many variants of the English language, many of which are non-standard forms used by authors for whom English is not their first language. The quality of this English varies widely in readability, and transfer of information can be frustratingly time-consuming when sentences have to be re-read to be understood. In some cases the reviewer has to wade through paragraphs of repetitious words and clumsy statements while attempting to grasp what is intended. Whatever the cause of the low standard of written scientific English grammar and style, the peer-review process is badly served when willing reviewers have to struggle at their task and may end up rejecting out-of-hand a badly written paper that may have some well-hidden merit.

My frustration over the years with trying to understand and then correct problematical manuscripts and grants made me feel it would be useful to have a compendium of clear, grammatical, scientific English where doubts about certain word usages (*lower than* or *decreased compared to*?) could be looked up easily. If there is such a need, am I the one to write it? My knowledge of grammar, initiated in primary school (where we parsed sentences every week) was not maintained in secondary school (when teaching systematic grammar had fallen out of fashion), but my sensitivity was heightened by the clear confusion with, or ignorance of, the roles of different parts of speech that I encountered in manuscripts originating worldwide.

The need for the glossary

The written documentation of a scientific experiment, in text, graphs and table legends, is as important as the practical work itself. Without it, the results of the experiments, no matter how important and how well argued, executed and analysed, are not communicated to the scientific community. Every aspect of the creative scientific process has to be documented clearly and succinctly; a scientist has failed if the reader has to spend time on the medium rather than the message.

The written word is the major form of scientific communication, and English is currently the language of international science. The spoken word clearly differs from the written, because additional information can be delivered by the former with intonation and facial expression; if speakers fail to transmit their thoughts well, statements can be rephrased in response to specific questions. By contrast, the written scientific word, often read a long time after publication, precludes the raising of questions. The inevitable conclusion is that scientific information must be presented as clearly as possible, so that there is no question about the meaning, with the consequence that proficiency in an accepted form of English is mandatory for both the writer and the reader. I assume that the failure to observe the rules of grammar, as well as the use of poor style, is not deliberate, but reflects ignorance stemming from having forgotten what was taught a long time ago; by not having been taught well; or by not having been taught at all. Those who have taught themselves may well have accepted as correct what they have read in published articles, in referees' comments and in editors' letters to authors. However, if published articles written, reviewed and proof-read by non-native English speakers are considered acceptable sources of written English, it is hardly surprising that peer-reviewed errors become accepted as correct usage, and are copied into manuscripts that are subsequently considered acceptable English sources.

The approach used in the glossary

To maximise the transfer of knowledge acquired by the reader from information transmitted by the writer of a manuscript, language must be used correctly. Non-standard English may be problematical if an ambiguous statement is interpreted otherwise by the reader than by the writer, but the information gap will be appreciated by neither. For example, *Its me wot dun it* may be understandable as an admission and some level of communication achieved. *He ain't no good* may also be understood, but in two ways, depending on whether the reader considers that the writer believes that two negatives re-enforce the negative meaning (he is no good) or cancel each other to produce the opposite statement. The meaning of either statement, in the absence of facial expressions or intonation, is unclear even to a native English speaker, unless the reinforcing or cancelling rule is known and accepted by both writer and reader. A non-native English speaker may not appreciate at all what is intended. These are extreme examples, but used for a purpose: what one infers as the intended meaning of a written statement depends on the way one believes the writer thinks. Is the writer likely to affirm a positive by using the negative of its contrary, and is the reader likely to appreciate this? When the writer and the reader share the same clear, unambiguous writing style, chances of misinterpretation diminish and information is exchanged efficiently.

Which version of English should scientists aspire to learn? If they are to understand the work of earlier generations, they need to know how they wrote; and just as scientists need to be able to understand what their forebears wrote, it is incumbent upon them to write in a manner that their successors will understand; in each case the use of a common language that both writer and reader use competently provides continuity. A common riposte to my correction of the English language in this manner (*It is I who did it* for the first example above) is that the corrected usage is old-fashioned and that people don't speak like that anymore. Well, that is no doubt true for the streetwise, but the lab.-wise should learn to write like that for their scientific papers to be understood. It is true that the written language changes with time, but it is we who choose to change it. It can change for the better, for example by stretching formal grammar to make reading easier, by permitting the use of *whose X* for animals and inanimate objects, instead of the previously required more convoluted *the X of which*; and by employing the use of the plural personal pronoun *their* as a possessive for the indefinite third person singular, which English lacks. Language

can be changed for the worse (causing confusion and necessitating a re-reading of the text) if nouns are used as verbs, or adverbs as adjectives, when perfectly good verbs and adjectives exist for the intended meanings; when infinitives are split by adverbs that can also be verbs; when new words are introduced although existing words suffice; and when existing words are given new meanings. If the new meanings are copied and become accepted, the original meaning may be lost and the older literature may become uninformative.

A musical interlude

I have long tended to see scientific manuscripts as being written in either a subdued Brahmsian (B) or a heart-on-the-sleeve Tchaikovskian (T) mode, of which I clearly prefer the former. T-mode writers are the extrovert scientists, preferring to write in the first person, active voice, sometimes pushing their conclusions too far, needing later to retract data; their B-mode counterparts lie below the radar, preferring the third person, passive voice, producing a less flamboyant but still detailed work intricately dovetailing in well-constructed layers.

A strict attitude to publishing his music was taken by Johannes Brahms, who gave this advice to the English composer George Henschel: "Let it rest, let it rest, and keep going back to it and working at it again and again, until it is completed as a finished work of art, until there is not a note too many or too few, not a measure you could improve on. Whether it is also beautiful is an entirely different matter, but perfect it must be". Drafts of my first publication physically crossed the Atlantic many times, each time accruing corrections from my supervisor and me. We realised after draft 9 that we were correcting our original corrections, so thought it then time to submit. It may not have been beautiful, but it was the best we could manage in those pre-computer days.

Although Brahms's advice is still worth taking today, it is a luxury that the pressure of having to publish much and often denies; forcing us to submit what that composer would consider an unfinished manuscript. I know that busy scientists, ever at the bench, thinking, planning and writing, have little time to consider the English they use. Word processing programs make easy the transfer of stock phrases from previous work, or copied verbatim from other publications, but this comes at the expense of the writer's not having to think at all about the text (which at times is all too apparent). This glossary was designed to help correct any problems encountered by providing alternative wording that could be inserted into the manuscript.

The structure of the glossary

This glossary is in four parts: **Part 1**, this introductory text; **Part 2**, the main glossary entries; **Part 3**, a formal summary of grammar and style underlying the entries; **Part 4**, supplementary technical information.

Part 2 consists of an alphabetical listing of words and phrases taken from authentic texts (frequently necessarily shortened) from peer-reviewed manuscripts, theses, grant applications and letters from authors, reviewers and editors, all of which contain errors of semantics or syntax, ambiguous statements, foreign or frequently confused words. Suggestions are made on why the solecisms should, and how they could, be corrected (for grammar) or improved (in style), to eliminate any confusion about meaning. My basis for considering what the correct form of words should be, has been that the ease of reading, the flow of thoughts, and the transfer of information should all be improved, making reading enjoyable and reviewing a pleasure. It is structured as explanatory comments indented to reflect their relative importance, highlighted in bold or bold italic fonts to indicate the relevant parts of speech explained, with other explanatory information in square brackets. Examples are aligned to the right to facilitate comparison of meanings.

There are *ALERTS* on wording to be avoided, *NOTES* with additional information, with cross-references that should help readers to find what they are unsure of. Whether it should be *Based on* or *On the basis of* can be looked up directly under B, or under O where one is directed to B [by See: Based on/on the basis of]. Scrolling down to reach these entries has been obviated by the [hypertext links](#) in the 'See:' sections facilitate access to the linked entries.

In many of the examples cited in **Part 2**, where improvements to texts are suggested, reasonable guesses have been made as to what was presumably the intended meanings; however, guessing is just supposing something with insufficient information to be sure that it is correct; and there should be no place for this in science, where the clarity of writing is as essential as the clarity of thought put into the experiments being described. I have been by no means guiltless in the misuse of English in my publications and wonder now whether the referees, editors or proof readers were unaware or just tolerant of my blunders. Before attempting this enterprise, I had to brush up on current English grammar and learnt new concepts (lexemes, phonemes, graphemes) and new terms (e.g. adverbials, causative verbs, determiners, intensifiers)—confusingly having different transatlantic terminology—that are now used for some concepts I had learnt under different names.

In **Part 3**, the basis for the suggestions made in **Part 2**, are in non-alphabetically listed, sub-headed sections on basic grammatical concepts and parts of speech, including punctuation, letters (and their pronunciation), the words they form (construction, function and pronunciation), the phrases and clauses formed from them that are arranged to form sentences. There is much emphasis on the presence and position of words and punctuation, which play such an important part in imparting meaning in English. There is necessarily some duplication, with an overview of parts of speech (e.g. Verbs), and complementary sections on the differences between them (e.g. Accessory/lexical verbs, Non-modal/modal/quasi-modal accessory verbs). Some basic analyses are found in **Part 2** (e.g. Modifiers/determiners/adverbials), where links to more detailed information (Determiners, Qualifiers/intensifiers) in **Part 3** is provided.

Parameters relevant to the andrological field and scientific notions (decimal and binary units, multipliers, numbers, scales of measurement) are included under subheadings in **Part 4**. Throughout the text, relevant cross-referencing to other sections in **Parts 2, 3** and **4** is by [hypertext links](#).

This is not an exhaustive compendium, for there are many other meanings of the words presented here, but I have listed those that are commonly misused in the scientific papers I have read.

Bibliography

There are a few books specifically on scientific English, some on American English usage, and many more not specifically aimed at scientists, and the points listed below have been gleaned from the books listed below. Some of books are prescriptive, others proscriptive, some have even confused defining and non-defining adjectival clauses, and others do not recognise a difference between *caused by* and *because of*. Ignorance of the language is a pity, but recommending others to ignore the subtleties of the language not only diminishes their ability to express nuances, but creates extra work for those, whether reviewers or scientists, trying to understand what is written. The *ad hominem* attack by one book's author on another shows the depth of feeling surrounding the proper use of English. In many cases the experts disagree on certain points and I resolved this by stating my own bias (as indeed did they!). I trust that this arrogance has been tempered by my stating what the error is, and how to correct it.

I prefer the passive to the active voice for scientific reporting, precisely because it shifts the focus from who is doing the work to the work itself. The repeated use of first person pronouns is egotistical and irritating. The passive also hides the identity of authors whose paper is being reviewed anonymously. There may well be disagreement with this and the British English I have used, but it is far better that English be argued over than ignored.

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Afterword

Laughing at others' misfortune is frowned upon these days, but I have always enjoyed reading, both for merriment and edification, students' examination grammatical howlers, although they are now hard to find. In a short clause they pinpoint some grammatical truth far better than a paragraph of dense explanation; in a few words they illuminate the beauty (and absurdity) of the English language—'*we dispense with accuracy*', '*the monkeys were seen using binoculars*'—the palette from which we construct our masterpiece. (For light relief, entries on puns, Malapropisms, Spoonerisms and Mondegreens are included.) I hope that those who recognise their own linguistic efforts here (mine are included) will not take offence, but accept, in the same spirit of enlightenment in which they were chosen, that their entries have driven this work and that their efforts have been put to good use.

Dr Trevor G Cooper, Hong Kong SAR, PR China, Spring 2023

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[Part 1 Foreword](#)

Part 2 Glossary

[Part 3 Grammar and Style](#)[Part 4 Technical Information](#)

A/an/the

See: [Definite/indefinite/no article, Determiners](#)

A/an historic

a **historic** begins with the consonant **h** It was **a historic** meeting
an confusion with **French**, where the **h** is silent It was **an** ^hhistoric meeting

A/the blind

a with the **indefinite** article blind is an **adjective** affected by lack of sight **A blind** person needs assistance
the with the **definite** article blind is a **noun** (a nominal adjective) blind people in general Free clinical tests are given to **the blind**

A/the couple is/are

is with the **definite** article
the **couple itself** is the subject
two objects considered **as one unit** **The couple is** known to work in the same laboratory
are with the **indefinite** article
what **couple refers to** is the subject
two objects considered **separately (both)** Of the old microscopes **a couple were** moved to the museum store

See: [A/the pair is/are](#)

A/the couple of... is/are

are with **either** article
what **couple refers to** is the head noun
two objects considered **individually (both)** **A couple of** posters **were** presented at the meeting
The couple of posters in the hall **have** long since faded

See: [A/the pair of... is/are, Head nouns](#)

A/the fraction is/are

is with **either** article
the **fraction itself** is the subject
a group of objects considered **as one unit** Of these stirrers **a small fraction is** enough for the practical class
The fraction is large enough to ensure statistical significance

A/the fraction of... is/are

is with **either** article
the **fraction itself** can be the head noun
a single object **A small fraction of** his thesis **is** devoted to the epididymis
a group of objects considered **as one unit** **The fraction of** graduating students **is** higher this year
are with the **indefinite** article
what **fraction of refers to** can be the head noun
a group of objects considered **individually (many)** A large **fraction of** the spermatozoa **were** acrosome-reacted

A/the list of... is/are

is with **either** article
the **list itself** is the head noun
as list refers to one collection of connected items **A list of** some of methods used **is** given in Table 1
The list of all methods used **is** given in Supplementary Table 1

A/the lot

a lot adverbial phrase (informal) a great deal, many, much, lots He wrote **a lot** last year
the lot noun (informal) all of them, the whole number or quantity involved You may as well take **the lot**

Style: verbosity, can be shortened: replace by **many/much**See: [Allot/alot](#)

A/the lot is/are

is with the **definite** article
the **lot itself** is the subject
a group of objects considered **as one unit** Of these old journals **the lot is** not worth keeping
are with the **indefinite** article
what **lot refers to** is the subject
a group of objects considered **individually (many)** Of these old journals **a lot are** fading

A/the lot of... is/are

is with **either** article
the **lot itself** can be the head noun
a single object **A lot of** work **needs** to be done

<p>a group of objects considered as one unit</p> <p><i>are</i> with the indefinite article</p> <p>what lot of refers to can be the head noun</p> <p>a group of objects considered individually (many)</p>	<p><i>The lot of</i> old journals in this pile is not worth keeping</p> <p><i>A lot of</i> topics were discussed at the meeting</p>
<p><i>A/the majority is/are</i></p> <p><i>is</i> with either article</p> <p>majority refers to one number (the largest group)</p>	<p><i>A majority is</i> against the motion</p> <p><i>The majority</i> against the motion is smaller than that last year</p>
<p><i>A/the majority of... is/are</i></p> <p><i>is</i> with either article</p> <p>the majority itself can be the head noun</p> <p>a group of objects considered as one unit</p> <p><i>are</i> with either article</p> <p>what majority refers to can be the head noun</p> <p>a group of objects considered individually (many)</p>	<p><i>A 90% majority is</i> opposed to the declaration</p> <p>If <i>the majority of</i> students raises objections, the results may be overturned</p> <p><i>A majority of</i> spermatozoa were immotile in the treated solution</p> <p><i>The majority of</i> spermatozoa were hyperactivated in the controls</p>
<p><i>A/the maximum is/are</i></p> <p><i>is</i> with either article</p> <p>as maximum refers to one number (the high limit)</p>	<p><i>A maximum is</i> generated from the calculation</p> <p><i>The maximum</i> permitted in the lecture hall is 200</p>
<p><i>A/the maximum of... is/are</i></p> <p><i>is</i> as maximum of refers to one number (the high limit)</p> <p>with either article the maximum itself is the head noun</p>	<p><i>A maximum of</i> 200 people is permitted in the lecture hall</p> <p><i>The maximum of</i> 200 applicants has been achieved</p>
<p><i>A/the minimum is/are</i></p> <p><i>is</i> as minimum refers to one number (the low limit)</p> <p>with either article the minimum itself is the subject</p>	<p><i>A minimum is</i> assumed for the calculation</p> <p><i>The minimum</i> permitted for a seminar to proceed is 20</p>
<p><i>A/the minimum of... is/are</i></p> <p><i>is</i> as minimum of refers to one number (the low limit)</p> <p>with either article the minimum itself is the head noun</p>	<p><i>A minimum of</i> 12 people is needed for a quorum</p> <p>Ensure that <i>the minimum of</i> damage is done</p>
<p><i>A/the minority is/are</i></p> <p><i>is</i> as minority refers to one number (the smaller group)</p> <p>with either article the minority itself is the subject</p>	<p><i>A minority is</i> against the motion</p> <p><i>The minority</i> against the motion is smaller than that last year</p>
<p><i>A/the minority of... is/are</i></p> <p><i>is</i> with either article</p> <p>the minority itself can be the head noun</p> <p>a group of objects considered as one unit</p> <p><i>are</i> with the indefinite article</p> <p>what minority refers to can be the head noun</p> <p>a group of objects considered individually (few)</p>	<p>If only <i>a minority of</i> students is against the motion, it will get passed</p> <p>If <i>the minority of</i> students raises objections, the results may be in doubt</p> <p><i>A minority of</i> the students were against the motion</p>
<p><i>A/the number is/are</i></p> <p><i>is</i> with either article</p> <p>the number itself can be the subject</p> <p>a group of objects considered as one unit</p> <p><i>are</i> with the indefinite article</p> <p>what number refers to can be the subject</p> <p>a group of objects considered individually (many)</p>	<p>Of the non-motile spermatozoa a small number is abnormal</p> <p>Of the non-motile spermatozoa the largest number is abnormal</p> <p>Of the motile spermatozoa a number are acrosome reacted</p>
<p><i>A/the number of... is/are</i></p> <p><i>is</i> with the either article</p> <p>the number of itself can be the head noun</p> <p>a group of objects considered as one unit</p> <p><i>are</i> with the indefinite article</p> <p>what number of refers to can be the head noun</p> <p>a group of objects considered individually (many)</p>	<p><i>A small number of</i> control spermatozoa is acrosome-reacted</p> <p><i>The number of</i> spermatozoa is higher in the control</p> <p><i>A number of</i> spermatozoa are acrosome-reacted</p>
<p><i>A/the pair is/are</i></p> <p><i>is</i> with either article</p> <p>the pair itself is the subject</p> <p>two objects considered as one unit</p>	<p>For the time being <i>a pair is</i> all we have available</p>

At the moment **the pair is** standing on the shelf by the door

See: [A/the couple is/are](#)

A/the pair of... is/are

is with **either** article
the **pair itself** can be the head noun
two objects considered **as one unit**

A pair of forceps **is** by the sink
The sterilised **pair of** scissors **is** in the culture room

are with **either** article
what the **pair of refers to** can be the head noun
two objects considered **separately (both)**

A pair of posters **were** displayed by the door
The pair of large posters **were** taken down immediately after the meeting

See: [A/the couple of... is/are](#), [Head nouns](#)

A/the percentage is/are

is with **either** article
the **percentage itself** is the subject
a group of objects considered **as one unit**

Of motile spermatozoa, **a** small **percentage was** acrosome-reacted
Of non-motile spermatozoa, **the percentage was** low

A/the percentage of... is/are

is with the **either** article
the **percentage itself** can be the head noun
a group of objects considered **as one unit**

A small **percentage of** motile spermatozoa **was** immobilised
The percentage of motile spermatozoa **was** reduced by the treatment

are with the **indefinite** article
what **percentage of refers to** can be the head noun
a group of objects considered **individually (many)**

A large **percentage of** basal cells **were** positive for p53

A/the plethora of... is/are

is with **either** article
plethora itself can be the head noun
a single object

A plethora of non-standard forms of English **is** presented to reviewers
The plethora of non-standard forms in this work **differs** from that in yours

are with the **indefinite** article
what **plethora of refers to** can be the head noun
a group of **objects** considered **individually (many)**

A plethora of diverse examples **are** given in this review

A/the portion is/are

is with **either** article
the **portion itself** is the subject
a group of objects considered **as one unit**

Of these fruits **a** small **portion is** enough for the rats
Of the bottles, **the portion** for recycling **is** on the top shelf

A/the portion of... is/are

is with **either** article
the **portion itself** can be the head noun
a single object
a group of objects considered **as one unit**

A small **portion of** the culture medium **has been** used
The portion of magnetic stirrers used in class **is** in the store cupboard

are with the **indefinite** article
what **proportion of refers to** can be the head noun
a group of objects considered **individually (many)**

A portion of the bottles **have been** washed

A/the proportion is/are

is with **either** article
the **proportion itself** is the subject
a group of objects considered **as one unit**

Of motile spermatozoa, **a** small **proportion is** acrosome-reacted
Of infertile men, **the proportion was** sufficient for a valid study

A/the proportion of... is/are

is with **either** article
the **proportion itself** can be the head noun
a single object
a group of objects considered **as one unit**

A proportion of this magnitude **is** considered highly significant
The proportion of cells positive for p53 **was** reduced by the treatment

are with the **indefinite** article
what **proportion of refers to** can be the head noun
a group of objects considered **individually (many)**

A large **proportion of** basal cells **were** positive for p53

A/the range is/are

is with **either** article
the **range itself** is the subject
as **range refers to** one number (between limits)

For statistical significance **a** low **range of** values **is** required
Table 1 shows that **the range is** large

See: [Interval/range](#)

A/the range of... is/are

is with **either** article

the **range itself** is the head noun

as **range of refers to one** number (between limits)

A large range of values **was** predicted

The small range of values **shows** a reproducible effect

See: [Interval/range](#)

ALERT Check that the **singular** is used with **range of**

A **range** of values **were** chosen to reflect physiological pH

ERROR *Syntax*: the word **values** is **plural** but the **subject** of the sentence (**range**) is **singular**

CORRECT by

replacing **were** by **was**

A **range** of values **was** chosen to reflect physiological pH

replacing **a range of** by **several**

Several values **were** chosen to reflect physiological pH

A/the series of... is/are

is with **either** article

the **series itself** is the head noun

a **group** of objects considered **as one unit**

A series of articles on epididymal function **is** to be published

The series of articles on the epididymis **is** far better than the last

A/the sick

a with the **indefinite** article **sick** is an **adjective**

affected by physical or mental illness

A sick person needs treatment

the with the **definite** article **sick** is a **noun** (a nominal adjective)

ill people in general

Free clinical tests are given to **the sick**

See: [Nominal adjectives](#)

A/the team is/are

is with **either** article

the **team itself** can be the subject

a **group** of objects considered **as one unit**

A foreign surgical team is coming next month

The local surgical team is the best in this region

are with the **definite** article

what the **team consists of** can be the subject

a **group** of objects considered **individually (members)**

The team are now taking their places in the hall

A/the team of... is/are

is with **either** article

the **team itself** can be the head noun

a **group** of objects considered **as one unit**

A team of surgeons **is** arriving in the next hour

The local team of surgeons **is** the best in this region

are with the **definite** article

what the **team consists of** can be the head noun

a **group** of objects considered **individually (members)**

The team of surgeons **are** now taking their places in the hall

A/the total is/are

is with **either** article

the **total itself** is the subject

as **total refers to one** number (a sum)

A total is given in Section 3.1

The total is higher than we estimated

A/the total of... is/are

is with **either** article

the **total itself** is the head noun

as **total of refers to one** number (a sum)

A total of 400 spermatozoa **is** required for acceptable precision

The total of 600 animals used **is** exceptionally high

A/the variety is/are

is with **either** article

the **variety itself** is the subject

a **group** of objects considered **as one unit**

Of explanations **a variety is** to be expected

Of available culture media **the variety is** enormous

A/the variety of... is/are

is with **either** article

the **variety itself** can be the head noun

a **group** of objects considered **as one unit**

Under these conditions **a variety of** other mechanisms **is** expected

The variety of culture media available **is** enormous

are with the **indefinite** article

what **variety refers to** can be the head noun

a **group** of objects considered **individually (many)**

A variety of sperm function **tests are** available

A/the while

a while	for some time	Can I keep it a while ?
the while	at the same time, meanwhile	He started writing the paper, talking the while

See: [A while/awhile](#), [During/for/while](#), [Meantime/meanwhile](#), [Whereas/while](#), [While/whilst](#)

A considerable amount of

Style: verbosity, can be shortened: replace by **much**, or **be specific** about the amount

A few/few

a few	some, not a lot, enough	They bought a few books	[none was expected]
		I spent a few hours in the library	[some unspecified time]
few	a small number of, not many, not enough	They bought few books	[more were expected]
		I spend few hours in the library	[not enough]

See: [Few/little](#), [Few/several](#), [Just/quite a few](#)

A few/few is/are

are	with or without an article
	what few consists of is the subject
	a group of objects considered individually (many)
	Of reasonable explanations only a few are to be expected
	Of suitable culture media few are known

A fortiori (Latin)

adverb	with greater reason or more convincing force	
	used to draw a conclusion inferred to be more certain than another	A reviewer of prejudice is, a fortiori , one of limited vision

A head/ahead

a head	preposition	per head, for each individual or item	These animals cost \$560 a head
ahead	adverb	further forward in space or time, in the lead	Turn right and the culture room is straight ahead
			For Impact Factors our institute is ahead of our rival

ALERT Check that **ahead** *is not* used with words *implying the future*

Looking **ahead** to the **future**, I see that further advances are certain to come soon

ERROR *Tautology*: as the **future** always **lies ahead**, one word is *superfluous*

CORRECT by using **one or the other**, not both, by

omitting to the future

Looking **ahead**, I see that further advances are certain to come soon

omitting looking ahead and **replacing to** by **in**

In the future, I see that further advances are certain to come soon

A limited number of

Style: verbosity, can be shortened: replace by **a few**, or **be specific** about the number

A little/little

a little	as adverb	of an verb	to a small extent	He reminded me a little of his parents
	as determiner	some, not a lot, enough		They bought a little wine [none was expected]
little	as adverb	of an adjective	only to a small extent	He was little known in his country
	as determiner	small amount of, not much, not enough		They bought little wine [more was expected]
		for emphasis		I have little doubt of their identity

A lot

See: [A/the lot](#)

A must

Style: **layman** terminology, colloquial speech, replace by **necessary/obligatory**

See: [Crucial/necessary/obligatory](#), [Have/must](#)

A number of

Style: verbosity, can be shortened: replace by **many**, or **be specific** about the number

See: [A/the number of... is/are](#), [Determiners](#)

A piece/apiece

a piece	noun	a portion of an object or material	produced by dividing the whole	He dissected out a piece of the testicular parenchyma
apiece	adverb	to, for, or by each one of a group	used after a noun or an amount	He sold three microscopes at \$10,000 apiece

A priori/posteriori (Latin)

a priori	what comes before , before experience	
	deductive : deduced from assumptions, predictions and self-evident propositions	
	adjective derived by reasoning from theoretical deductions	Don't make a priori assumptions about his competence
	adverb in a manner based on theoretical deductions	Don't assume a priori that your cost will be the same as his
a posteriori	what comes after , after experience	

inductive: induced from empirical observations

adjective derived by reasoning from known facts

adverb in a way based on reasoning from known facts

This was clearly an **a posteriori** explanation of the facts

The error was only found **a posteriori**

See: [Deductive/inductive reasoning](#), [Empirical/theoretical](#)

A variety of

Style: verbosity, can be shortened: replace by **many**

See: [A/the variety of... is/are](#)

A while/awhile

a while noun phrase a period of time preceded by a **preposition**

Let's think about this **for a while**

They'll be here **in a while**

awhile adverb for a short time **needs no** preposition

Let's think about this **awhile**

Stay **awhile** at these posters, to see how they show a story

See: [A/the while](#), [Whereas/while](#), [While/whilst](#)

A-/poly-syndeton

asyndeton the **lack of** coordinating conjunctions

to emphasise repeated elements He came, he spoke, he left

polysyndeton the use of **multiple** coordinating conjunctions

to emphasise a protracted event He took his pen **and** ink **and** pencil **and** paper **and** left

See: [Clauses](#), [Conjunctions](#)

Abbreviation/acronym/contraction/initialism

abbreviation a **shortened form** of a word or phrase

comprising acronyms, contractions, initialisms

acronym an abbreviation of **several** words formed from **initial letters pronounced as a word**

ANOVA

Analysis of Variance

COVID

Corona Virus Disease

HUGO

Human Genome Organization

laser

light **amplification** by the **stimulated emission of radiation**

sonar

sound navigation and ranging

UNESCO

United Nations Educational Scientific and Cultural Organization

contraction an abbreviation of **one** or **several** words formed by **omission** of letters

with **no** full stops if last letter shown

Dr

doctor

Drs

doctors

Profs

professors

with full stops if last letter not shown

Prof.

professor

i.e.

id est

e.g.

exempli gratia

etc.

et cetera

with an apostrophe for **missing** letters

can't

cannot

shan't

shall not

by **fusion** of words

biodegradable

biologically degradable

sitcom

situation comedy

initialism an abbreviation of **several** words formed from **initial letters pronounced separately**

with no full stops

CT

computed tomography

BBC

British Broadcasting Service

PCR

polymerase chain reaction

WHO

World Health Organization

UK

United Kingdom

with full stops

U.S.

United States

See: [Word formation](#)

Able

having the ability to do something

does not necessarily mean that something is done

NOTE Vague word: often used unnecessarily **[omit]**

ALERT Check whether the verb **able** is necessary

After treatment we **were able to measure** an increase in testosterone

ERROR Tautology: as this implies that you **were capable of measuring** testosterone but you also **did measure it**, one verb is **superfluous**

CORRECT by **replacing were able to measure** by **measured** or **detected**

After treatment we **measured/detected** an increase in testosterone

Able to/capable of

able to having the skill do something

able followed by a **base infinitive**

He is **able to operate** the electron microscope himself

capable of having the ability to do something followed by a **gerund**

She is **capable of operating** the electron microscope herself

Abnegate/abrogate/arrogate

abnegate to renounce or reject something that is desired
abrogate to cancel, to repeal without another's consent
arrogate to claim for oneself without justification

His remarks are attempts to **abnegate** scientific responsibility
 The society **abrogated** the rule providing lower student registration fees
 The union's president **arrogated** to himself the power to decide fees

Abnormal/normal/subnormal/supra-normal

normal common, ordinary, regular
abnormal not normal, below or above normal
subnormal below normal, abnormal
supra-normal above normal, abnormal

See: [Normal](#)

Abnormal sperm morphology

sperm morphology that is not **normal**

NOTE a **low** percentage of **normal** morphology implies a **high** percentage of **abnormal** morphology

ALERT Check the meaning after using **abnormal** morphology

The sperm sample was characterised by a **high abnormal** morphology (15%)

ERROR *Semantics:* since (15%) is adjacent to **abnormal forms** it implies **85% normal forms**, which is a high **normal morphology**

CORRECT [if the sample was **abnormal**] by **explaining** that 15% refers to **normal forms**

The sperm sample was characterised by a **high abnormal** morphology (15% **normal forms**)

providing the percentage of **abnormal forms**

The sperm sample was characterised by a **high abnormal** morphology (**85%**)

CORRECT [if the sample was **normal**] by

replacing **abnormal** by **normal** and **15%** by **85%**

The sperm sample was characterised by a high **normal** morphology (**85%**)

Abolishment/abolition

abolition the action of abolishing a system, practice or institution

About/some

about adverb approximately, around for **cardinal numbers**
some adjective about, approximately for **count** nouns
 for **mass** nouns
 an unstated quantity

We have **about five** bottles of medium left
 For this procedure, **some** five **methods** are known
 There is **some medium** in the cold room
 I shall get **some** fixative from the stores

See: [Any/some](#), [Approximately/approximately equal to](#), [Cardinal/ordinal numbers](#), [c. \(ca., cca., cir.\)](#), [Rounding of numbers](#)

ALERT Check that **about** or **some** does not relate to something exact

The microscope costs **about** HK\$21,790

ERROR *Oxymoron:* **about** means **approximately** but 21,790 is an **exact** sum

CORRECT by

omitting **about**

The microscope costs HK\$21,790

rounding to an **approximate value**

The microscope costs **about** HK\$22,000

Some 289 studies were reviewed in this paper

ERROR *Oxymoron:* **some** means **approximately** but 289 is an **exact** figure

CORRECT by

omitting **some**

Two hundred and eighty-nine studies were reviewed in this paper

rounding to an **approximate value**

Some 300 studies were reviewed in this paper

See: [Rounding of numbers](#)

Above/below/within limits

above Normozoospermia: when sperm numbers per ejaculate and percentages of progressively motile and morphologically normal spermatozoa are equal to or **above** the lower WHO reference **limit** for normal
below Asthenozoospermia: when the percentage of motile spermatozoa is **below** the lower WHO reference limit for normal
within 95% of the values fall **within** the 95% confidence **limits**

See: [Between... and... /from... to...](#), [Interval/range](#)

Absence in/from/of

in related to a certain **period of time** when something is lacking
from related to a certain **location** or **individual** where something is lacking
of related to a certain **component** that is lacking

What is noticeable about the animals is their **absence in winter**
 The **absence from the mutant** epididymis of EAAC1 is noteworthy
 The **absence of EAAC1 staining** in the mutant epididymis is of note

See: [Absent at/from/in/on](#)

Absent

adjective not present or attending, not existing My **absent** colleagues
verb to go away or stay away He **absented** himself from the meeting
is not a preposition confusion with **American English**

ALERT Check that **absent is not** used as a **preposition**

Absent the evidence, this conclusion cannot be drawn

ERROR *Syntax*: absent **is not** a **preposition**

CORRECT by

replacing **absent** by **without**

Without the evidence, this conclusion cannot be drawn

replacing **absent the** by **in the absence of**

In the absence of evidence, this conclusion cannot be drawn

ALERT Check that the use of **absent** makes sense

Androgens in contraceptive-suppressed men were reduced to low but not **absent** levels

ERROR *Semantics*: androgens can be absent but a **level** cannot

CORRECT by

replacing **absent** by **non-detectable**

Androgens in contraceptive-suppressed men were reduced to low but not **non-detectable** levels

replacing **not absent** by **still detectable**

Androgens in contraceptive-suppressed men were reduced to low but **still detectable** levels

omitting **reduced to** and **levels**

Androgens in contraceptive-suppressed men were low but not **absent**

Absent at/from/in/on

at	refers to a period of time when something is lacking	Basal cell staining was absent at puberty
from	refers to something is lacking in an individual a location a period	EAAC1 staining is absent from the mutant mice EAAC1 staining is absent from the mid-corpus epididymidis EAAC1 staining is absent from day 15
in	refers to a time of the year that something is lacking	It is noteworthy that the animals were absent in winter
on	refers to a instant in time when something is lacking	The basal cell layer, present on day 25, was absent on day 15

See: [Absent](#)

Abscissa/applicate/ordinate

abscissa	the vertical (y) axis of a Cartesian 2D (x, y) or 3D (x, y, z) graph	usually for a dependent (experimentally measured) variable
applicate	one (z) of two horizontal axes of a Cartesian 3D (x, y, z) graph	usually for a dependent (experimentally measured) variable
ordinate	the horizontal (x) axis of a Cartesian 2D (x, y) graph one (x) of two horizontal axes of a Cartesian 3D (x, y, z) graph	usually for the independent (experimentally determined) variable

See: [Linear/semi-logarithmic/logarithmic graphical plots](#)

Absorbance/transmittance

absorbance (A)	the reduction in the intensity of radiation as it passes through a medium, due to absorption, reflection or scattering [formerly optical density, absorptency, extinction] the logarithm, to the base 10, of the reciprocal of the transmittance
transmittance (T)	the ratio of the radiant flux transmitted by the test substance to that of the incident radiant flux [formerly transmittancy, transmission]

Absorbency

former terminology for absorbance

See: [Absorbance/transmittance](#)

Absorption/adsorption/resorption

absorption	penetration and uptake of material, fluid or radiation	There is fluid and solute absorption from the gut
adsorption	binding of molecules to a membrane or protein	The antibody was adsorbed with its relevant antigen
resorption	absorbing components of a secreted fluid (<i>i.e.</i> re-absorption)	There is resorption of testicular fluid in the efferent ducts

Abstract/concrete nouns

abstract	not physical objects but concepts, ideas or qualities count nouns action thought hypothesis mass nouns advice behaviour co-operation damage debris evidence help information literature news nuisance progress proof refuse research software waste
concrete	physical objects determined by the senses common nouns country city laboratory scientist microscope proper nouns England Bristol Infertility Clinic Dr CH Yeung Olympus NJ2

See: [Common/proper nouns](#), [Count/mass nouns](#), [Nouns](#)

Abuse/disabuse/misuse

<i>abuse</i>	to use something to bad effect or for a bad purpose	He abused his position as first author to alter the conclusions
<i>disabuse</i>	to show someone that their thinking is wrong	These data should disabuse you from believing the alternative hypothesis
<i>misuse</i>	to use something in the wrong way	If you misuse the condenser, you'll break the lens

Accede to

to agree to, to allow, to grant a demand, request or treaty	The dean acceded to the lecturer's request for a sabbatical year
---	---

Accelerate/escalate/increase

<i>accelerate</i>	verb	to increase in amount, extent or rate	The key question is whether stress accelerates ageing
<i>escalate</i>	verb	to increase rapidly to become more intense or serious	The grant withdrawal ensured that costs continued to escalate The disturbance escalated into a riot We do not wish to escalate the conflict
<i>increase</i>	noun verb	a rise in the size, amount or degree of something to become or make greater in size, amount or degree	The increase in CASA usage was 20% in the last year CASA use increases in accredited laboratories We intend to increase the use of CASA in accredited laboratories

See: [Increase/increment](#)

ALERT Check that **escalate** is used correctly

Adjustments of the dose can **escalate** the costs of treatment

ERROR *Syntax*: there is no suggestion of a rapid increase in costs

CORRECT [if cost increases were **not** rapid] by

replacing **escalate** by **increase**

Adjustments of the dose can **increase** the costs of treatment

Acclimated/acclimatised

<i>acclimatised</i>	to become accustomed to a new climate or conditions, to adjust	The tourists may not become acclimatised to the weather
---------------------	--	--

Accompany/escort

<i>accompany</i>	transitive verb	to go with someone	She accompanied the guest to the laboratory
	intransitive verb	to exist while something else is happening	The disease is often accompanied by infertility
<i>escort</i>	transitive verb	to go with someone to protect them	The officers escorted the rebellious students out of the room

ALERT Check that **escort** is the word required

Our observations indicate that CRISP proteins **escort** spermatozoa through the epididymis

ERROR *Syntax*: **proteins** are **insentient and cannot** take people anywhere

CORRECT by replacing **escort** by **accompany**

Our observations suggest that CRISP proteins **accompany** spermatozoa through the epididymis

Accomplish/accomplished

<i>accomplish</i>	verb	to achieve, to complete successfully	He managed to accomplish the ligation
<i>accomplished</i>	past tense and past participle of the verb to accomplish		
	past tense		He accomplished the surgery in record time
	participle as verb		She accomplished what we thought she could not
	as adjective	highly trained or skilled in a particular activity	She is an accomplished surgeon

NOTE *Vague word*: often used unnecessarily, replace by **what was accomplished [or omit]**

ALERT Check whether **accomplished** should be replaced by a more informative verb

Sealing of the multi-well plates was **accomplished**

STYLE *Verbosity*: can be shortened

CHANGE by **omitting** **accomplished** and

replacing the *gerund* with its related *verb*

The multi-well plates **were sealed**

Having **accomplished** the alignment in the virtual gain mode, cells were repositioned in the dot plots

ERROR *Semantics*: **accomplished** is a participle and **cells** is the nearest noun it can complement

so this implies that the **cells** can accomplish something

CORRECT [if technicians aligned the cells] by

replacing **having accomplished** by **after**

After the alignment in the virtual gain mode, cells were repositioned in the dot plots

Accord/agreement

<i>accord</i>	noun	agreement or harmony	The lecturers and deans are in accord over the exam results
	verb intransitive	to be consistent	The results accorded with the first hypothesis
	transitive	to grant someone status, power, recognition	These are the powers accorded to the Safety Officer
<i>accordance</i>	noun	a manner conforming with authority	Surgery is done in accordance with our Ethical guidelines
<i>agreement</i>	noun	absence of incompatibility, consistency; accord	Our results are in agreement with those of Petrunina et al

See: [According to/in accordance with](#)

ALERT Check that **accordance** relates to an **authority**

The CD45 to F4/80 cell ratio in the magnetic bead-sorted fragment is in **accordance** with the immuno-histochemical results

ERROR *Syntax:* **results** are **insentient and cannot** provide authoritative information

CORRECT by **replacing *accordance* by *accord* or *agreement***

The CD45 to F4/80 cell ratio in the magnetic bead-sorted fragment is in **accord/agreement** with the immuno-histochemical results

According to/in accordance with

<i>according to</i>	complex preposition	as stated by or in conforming to an authority	Northern blots were performed according to local protocols According to the guidelines, persons entering area must wear a mask
<i>in accordance with</i>	prepositional phrase	conforming with authority	The rules are in accordance with Safety Department regulations

See: [Prepositions](#)

ALERT Check that **according to** relates to objects **capable of providing** authoritative information or instructions

According to our results the topical administration of PRDX6 inhibits ROS damage and PMN infiltration

ERROR *Syntax:* **results** are not a source of authority

CORRECT by **replacing *according to* by *from***

From our results the topical administration of PRDX6 inhibits ROS damage and PMN infiltration

The phenotypic severity of germ cell-specific Dicer1 models varies **in accordance with** the onset and cell type of Dicer1 recombination

ERROR *Syntax:* **results** are not a source of authority

CORRECT by **omitting *in accordance***

The phenotypic severity of germ cell-specific Dicer1 models varies **with** the onset and cell type of Dicer1 recombination

Accordingly

conjunction so, therefore, thus Thereafter the epididymal weight decreased; **accordingly** we increased the dose of androgen

Account for

phrasal verb to be the reason for something The high numbers of immune cells **accounted for** the low cancer rate in adipose tissue

Accounted for by the fact that

Style: verbosity, can be shortened: replace by **because**

Accrual/accrue/recruitment

<i>accrual</i>	noun	the amount (of benefit) by which something accrues, the process of accruing benefit
<i>accrue</i>	verb	to receive a benefit (or sum of money) in regular or increasing amounts over time
<i>recruitment</i>	noun	the action of enlisting people for a cause

ALERT Check that **accrual** is meant

The Institutional Review Board approved this study before **accrual** of participants

ERROR *Semantics:* **accrual** refers to money not people

CORRECT by **replacing *accrual* by *recruitment***

The Institutional Review Board approved the study before **recruitment** of participants

Accurate/precise

<i>accurate</i>	correct in all detail, valid close to the true, target or consensus value	You can believe that what he says is accurate The balance was accurate ; the standard (9.9 g) fell within the cited limits (9.8–10.2 g)
<i>precise</i>	specifying details exactly, reliable	9.786 g (three decimal places) is more precise than 9.8 g (one decimal place)

See: [Significant digits](#)

Accusative case

See: [Objective \(object\) case](#)

Accustomed to

used to

See: [Used/used for/used to](#)

Achieve

to reach a desired objective successfully, by effort, skill or courage The stock solution was diluted to **achieve** a final concentration of 10 pM
We **achieved** our aim of proving that volume regulation is potassium-dependent

NOTE *Vague word:* often used unnecessarily, replace by **what was achieved** [or omit]

ALERT Check whether **achieved** should be replaced by a **more informative word**

An **increase** in sperm motility was **achieved**

STYLE *Verbosity:* can be shortened

CHANGE by **omitting *achieved*** and

replacing the *noun* by its related *verb*

Sperm motility **increased**

Acidic/alkaline pH

Pleonasm: as **acidic/alkaline** indicates low/high **pH**, one word is **superfluous**: use **acidic** or **alkaline** or use **low** or **high pH**

Acknowledge

to accept the existence or truth of something
to recognise the importance of something or someone
to show that one has recognised someone or something
[**only people** can **acknowledge** facts]

The student **acknowledged** that he had used an incorrect statistical method
That institute is **acknowledged** as a leader in the field of stem cell research
The technician's contribution was **acknowledged** at the end of the paper

Acknowledge/thank

acknowledge **gifts** are acknowledged
thank **people** are thanked

We **acknowledge** the gift of ³⁶Cl-labelled **ornidazole** from Dr Jones
We **thank Dr Jones** for the gift of ³⁶Cl-labelled ornidazole

Acknowledgement/acknowledgment

acknowledgement confirmation of receipt of something
a statement in a book expressing gratitude to others
acceptance of the truth of something
recognition of the importance or quality of something
acknowledgment confusion with **American English**

He received an **acknowledgement** of his application
Professor Jones is omitted from the **Acknowledgements**
There is wide **acknowledgement** of his cannulation technique
She received departmental **acknowledgement** of her work

Acme/acne

acme the highest level or degree attainable, the highest stage of development
acne an inflammatory disease of skin sebaceous glands, characterised by pustules

His writing was deemed the **acme** of clarity
His **acne** clearly showed he had entered puberty

Acoustic/acoustical

acoustic relating to sound or the sense of hearing

Acoustic/acoustics

acoustic adjective relating to sound or the sense of hearing
is not a noun (the singular of acoustics)

The lecture room is lined by **acoustic** tiles

acoustics noun a branch of physics
the properties of a space determining how sound is transmitted

Acoustics is taught in the third year
The lecture room has excellent **acoustics**

Acoustics is/are

is with **no article** **acoustics itself** is the subject
are with an **adjective** what **acoustics refers to (sound properties)** is the subject

Acoustics is the study of the behaviour of sound
Poor acoustics are characteristic of this concert hall

Acoustics of... is/are

are what **the acoustics of refers to (sound properties)** is the head noun **The acoustics of** the seminar room **are** terrible

Acquirement/acquisition

acquisition an asset or object bought or obtained, typically by a library or museum

See: [Back-formation](#)

Acre/hectare

acre a **non-metric** unit of land area equal to 4,840 square yards 1 acre = 0.405 hectare
hectare (ha) a **metric** unit of land area equal to 1 square hectometre (10² m x 10² m = 10,000 m² = 0.01 km²) 1 hectare = 2.471 acres
[about the size of a standard football (soccer) field]

See: [Metre square/metre squared/metres square/square metre/square metres](#)

Acronym

See: [Abbreviation/acronym/contraction/initialism](#)

Acrosomal/acrosome/acrosomic

acrosomal adjective **of** the acrosome
to the acrosome
acrosome noun the cap overlying the anterior sperm head
as **noun adjunct** in a compound noun
acrosomic confusion with **genetic/proteomic**

acrosomal membranes [membranes **of** the acrosome]
acrosomal damage [damage **to** the acrosome]
The sperm head has an **acrosome** and a post-acrosomal segment
The **acrosome reaction** [a **reaction occurring to** the acrosome]

See: [Back-formation](#)

ALERT Check that **acrosomal** is not used as an adjunct

A23187 stimulated the **acrosomal** reaction

ERROR Syntax: the reaction occurring to the acrosome is the **acrosome reaction**

CORRECT by **replacing acrosomal** by **acrosome**

A23187 stimulated the **acrosome** reaction

Acrosome reaction/-reacted

acrosome reaction compound noun
a reaction **occurring to** the acrosome

requires the **definite article** because it is **specific** **The acrosome reaction** was assessed by antibody binding
acrosome-reacted compound hyphenated attributive adjective
 formed from a noun (acrosome)
 requires the **definite article** for **specific** cells Only **the acrosome-reacted** spermatozoa reacted with the antibody

See: [Definite/indefinite/no article](#)

Actual/current/present

<i>actual</i>	based on fact, what is true used for emphasis does not mean existing or happening now	The estimate was far less than the actual cost of the repair His actual words were, 'I deny that I have committed plagiarism' confusion with German (aktuelle)
<i>current</i>	existing or happening now	The current issue of the journal contains your article
<i>present</i>	existing or happening now	In the present financial climate our grant is unlikely to be funded

NOTE *Overused word*: often used unnecessarily [omit]

ALERT Check that **actual** is the **intended word**

The **actual** guidelines require sterilisation of the surface at the end of each working day

ERROR *Tautology*: as guidelines are **by definition** factual, **actual** is **superfluous**

CORRECT by

omitting actual

The guidelines require sterilisation of the surface at the end of each working day

replacing actual by words meaning **existing** or **happening now**

The **current/present/most recent** guidelines require sterilisation of the surface at the end of each working day

Actual truth

Pleonasm: as **actual** and **truth** both mean based on fact, **actual** is **superfluous**: use **truth**

Actually/indeed

<i>actually</i>	based on fact, as the truth of a situation used for emphasis	Find out which methods are actually used He actually expected me to be grateful [but I am not grateful]
<i>indeed</i>	to introduce a further or stronger point to emphasise a confirmatory statement	The hypothesis is attractive to most in this field, and indeed to others in other fields I thought writing it would not take long, and indeed it took only a week [it was not long, as predicted]

ALERT Check that **actually** is the **intended word**

Expression may require post-transcriptional modification: it has **actually** been reported that MTA1 regulates DNA repair

ERROR *Tautology*: as all reports are based on fact, **actually** is **superfluous**

CORRECT by **omitting actually**

Expression may require post-transcriptional modification: it has been reported that MTA1 regulates DNA repair

CORRECT [for emphasis] by

replacing actually by **indeed** or **in fact**

Expression may require post-transcriptional modification: it has **indeed/in fact** been reported that MTA1 regulates DNA repair

Acute/chronic

<i>acute</i>	of a disease, with sudden onset but of short duration	She has acute appendicitis
<i>chronic</i>	of an illness, with slow onset, of long duration or constantly recurring	He suffers from chronic epididymitis

AD/BC/BCE/CE

<i>AD</i>	abbreviation of Anno Domini (Latin) 'in the year of our Lord'	the number of years after Jesus Christ was born
<i>BC</i>	abbreviation of Before Christ	the number of years before Christ was born
<i>BCE</i>	abbreviation of Before the Common Era, BC	the number of years before Christ was born
<i>CE</i>	abbreviation of the Common Era, AD	the number of years after Christ was born

Ad-/circum-/in-/inter-fixes

<i>adfixes (affixes)</i>	letters added to the root word	
	at the beginning <i>prefixes</i>	microscope
	at the end <i>suffixes (postfixes)</i>	informing
<i>circumfixes</i>	letters that surround the root word	embolden
<i>infixes</i>	letters that are inserted into compound words	governors-general editors-in-chief
<i>interfixes</i>	letters that connect two words	speedometer

See: [Derivational/inflectional affixes](#), [Prefix list](#), [Suffix list](#), [Word structure](#)

Ad/post hoc (Latin)

<i>ad hoc</i>	for this	created for a particular purpose as necessary	An ad hoc committee was formed to examine this particular breach of rules
<i>post hoc</i>	after this	occurring after the event	When overall significance is shown, use a post hoc test to find which groups differ

Ad hominem (Latin)

abbreviation of **argumentum ad hominem** to the man/person
 rebuttal of an argument by attacking the character of the **person arguing**, not the **facts of the argument**
 The referee's biased comments were clearly an **ad hominem** attack on the author

See: [Venal/vindictive](#)

Ad lib. (Latin)

abbreviation of **ad libitum** according to pleasure, free, unrestricted The rats had access to water and chow **ad libitum**

Ad nauseam (Latin)

to sickness, repeatedly frequent repetition that becomes annoying We've debated this **ad nauseam** without coming to a conclusion

Adapt/adept/adopt

<i>adapt</i>	to change something for a specific purpose	He adapted the published method from heating in oil to heating over a naked flame
<i>adept</i>	very skilled or proficient at something	He was adept at cannulating the rete testis
<i>adopt</i>	to accept something as it is and use it	She adopted his method for making the cannula

Add/supplement

<i>add</i>	to put in an additional element or ingredient	
	refers to the addition followed by the preposition to	Sucrose was added to the medium to increase osmolality
<i>supplement</i>	to have added an extra element or amount to	
	refers to the receiver followed by the preposition with	The medium was supplemented with sucrose to raise osmolality

Addendum/corrigendum/erratum (Latin)

<i>addendum</i>	an addition, extra information added to a publication after it had been written
<i>corrigendum</i>	an error, especially one found after publication and listed subsequently, an erratum
<i>erratum</i>	an error, especially one found after publication and listed subsequently, a corrigendum

Addition

See: [Mathematical comparators/operators](#)

Additionally

also, in addition

See: [Also/in addition/on the other hand](#)

Address

to consider, to deal with, to tackle

Adenylate/adenylyl cyclase

adenylyl cyclase the **adenylyl** (**not adenylate**) functional group is cyclised

Adequate

enough, but only just

See: [Enough/sufficient](#)

Adjacent/adjacent to/circumjacent

<i>adjacent</i>	adjective	adjoining	His office room is the adjacent room
<i>adjacent to</i>	adjectival phrase	next to	His office is adjacent to the operating theatre
<i>circumjacent</i>	adjective	surrounding	The participants came from Hong Kong and circumjacent cities

See: [Plain English](#)

Adjunct adjectives/adverbs/adverbials/nouns

<i>adjunct adjectives</i>	attributive adjectives come before the noun Fertile marmosets		
<i>adjunct adverbs</i>	manner adverbs	not integral to the sentence	
	optional modifiers: can be removed without losing meaning		
	The spermatozoa are swimming slowly	[The spermatozoa are swimming...]	
<i>adjunct adverbials</i>	not necessarily adverbs	are integral to the sentence	
	not optional modifiers: cannot be removed [without losing meaning]		
	Silvia is outside	[Silvia is... ?]	
<i>adjunct nouns</i>	nouns used as adjectives considered part of the following noun acrosome reaction culture room		

See: [Adjectives](#), [Adverbials](#), [Nouns as adjectives](#), [Word modifiers](#)

Administer/administrate

<i>administer</i>	to manage and be responsible for the running of an organization	Each faculty was administered separately
	to dispense or apply a remedy or drug	Paramedic crews are capable of administering drugs

See: [Back-formation](#)

Adopted

past participle of the verb to adopt meaning depends on position relative to the nouns

See: [Adapt/adept/adopt, Position of participles](#)

Adsorption

See: [Absorption/adsorption/resorption](#)

Advance/advancement

advance development or improvement Recently there have been many **advances** in our knowledge of epididymal function
advancement the process of helping to promote a plan or cause The American Society for the **Advancement** of Science

ALERT Check that **advancement** is used correctly

Wider application of this technique could lead to **advancements** in our treatment of patients

ERROR *Syntax*: no process is mentioned

CORRECT by **replacing *advancements* by *advances***

Wider application of this technique could lead to **advances** in our treatment of patients

Advance/progress

advance to develop, to improve
 verb intransitive Knowledge of sperm structure **advanced** with the invention of the electron microscope
 transitive Our studies have **advanced** our **knowledge** of the fertilisation process
progress to move forward or onward
 verb intransitive As time **progresses** the quality of microscope lenses improves

See: [Advance/advancement, Intransitive/transitive verbs](#)

ALERT Check that **progress** is used correctly

Our studies have **progressed** our knowledge of the fertilisation process

ERROR *Syntax*: progress is an **intransitive verb**, taking no object

CORRECT by

replacing *progress* by *advanced*

Our studies have **advanced** our knowledge of the fertilisation process

inverting the sentence

Our knowledge of the fertilisation process **has progressed** by our studies

Advantage for/in/of/to

for receiving a benefit followed by a noun or **pronoun** Taking the exam early is an **advantage for him** in his quest for promotion
in an action followed by a **noun** There is an **advantage in this approach**
of an action followed by a **gerund** There is an **advantage in taking** the exam early
to an action followed by a **gerund** The **advantage of taking** the exam early **is that you can enter the course early**
 There is an **advantage to taking** the exam early: you can enter the course early

Adverbs/adverbials

adverbs **content** words (an **adverbial**)
 add information to that given by **word types** describe **adjectives** **adverbs** **verbs**
adverbials a grammatical **function** **not** a word class
 add information to that given by the **verb** comprise **adverbs** **clauses** **nouns** **participial/prepositional phrases**

See: [Modifiers/determiners/adverbials](#)

Adverse/averse

adverse antagonistic, contrary, hostile, unfavourable They had **adverse** views on vivisection
averse disinclined, feeling repugnance/loathing for, opposed He was **averse** to working with mice [He was **unwilling** to work with mice]
 often with the **negative** He was **not averse** to the idea [He was **not unwilling** to consider it]
 (He was **willing** to consider it)

See: [Double negatives/litotes](#)

Advice/advice

advice **advice** is a **mass** noun, which **has no plural**
 the **plural** form takes a **partitive** construction Practical **advice is** what she always gives
 Before the interview she gave me **plenty of advice**

ALERT Check that **advice is not** used in the **plural**

He gave me some good **advices** on how to set up the microscope

ERROR *Syntax*: **advice** is a mass noun with **no plural**

CORRECT by **replacing *advices* by *advice***

He gave me some good **advice** on how to set up the microscope

Advice/advise

advice noun guidance or recommendations for prudent action The **advice** he gave me prevented me from damaging the microscope lens
advise verb to offer suggestions for the best course of action He **advised** me to look from the side when lowering the objective

Advocate/protest

advocate for **positive** contexts The administration **advocated** the imposition of higher fees
protest for **negative** contexts The students **protested** having to pay higher fees

Advocate/advocate for

advocate	noun	one who advocates	followed by a preposition	He is an advocate of early treatment
	verb transitive	to support publicly	followed by an object	He advocates early treatment
advocate for	verb transitive plus preposition	to advocate over a period of time		This point has been advocated for months
	intransitive plus preposition	to advocate on behalf of someone else		The lawyer advocated for the families

See: [Light/phrasal verbs](#)

ALERT Check that a **preposition does not** precede what is advocated

He **advocates for** early treatment to avoid later complications

ERROR *Syntax*: as **advocate** is a transitive verb requiring an object, it **needs no preposition (for)** after it

CORRECT by **omitting for**

He **advocates** early treatment to avoid later complications

Aerosols/droplets

aerosols	a colloidal suspension of particles	< 100 µm diameter	remain airborne for a long-time after emission
droplets	a small drop of liquid	≥ 100 µm diameter	fall rapidly to the ground after emission
	cytoplasmic droplets	cytoplasm on the midpiece of spermatozoa	

Aetiology

the cause, set of causes, or manner of causation of a disease or condition

ALERT Check that **aetiology is not** used with words **implying causes**

A condition such as oligozoospermia may be **caused by** many **aetiologies**

ERROR *Tautology*: as **aetiology** means the **cause** of a disease, one word is **superfluous**

CORRECT by **using one or the other**, not both, by

replacing **be caused by** with **have**

A condition such as oligozoospermia may **have** many **aetiologies**

replacing **aetiologies** by **factors**

A condition such as oligozoospermia may be **caused by** many **factors**

Affect/effect

affect	noun	emotion as an influencing behaviour (psychology)	As the drugs triggered affect and emotion, the rats became aggressive
	verb	to have some effect on [weaker than effect] often used with may	Smoking affects your health Smoking may affect your fertility
		to pretend, imitate, adopt a pose	He affects a British accent in order to impress the Americans
effect	noun	outcome, result	We predicted the effect of adding quinine to spermatozoa
	verb	to accomplish, to bring about [stronger than affect]	Smoking effects your health negatively

See: [Effect/impact](#), [Impact/impinge/infringe](#)

ALERT Check whether **effect** is the **intended word**

If you have previously asked us not to send you a list of available positions, your preference will not be **effected**

ERROR *Semantics*: ambiguous, both **affect** and **effect** could be used here, but with different meanings

so **this could be interpreted as** your previous preference

not being **effected** (not **brought into effect**) [the preference will be **ignored**]

or

not being **affected** (not **altered**) [the preference will be **retained**]

CORRECT [if the **former** is meant] by

being more specific

If you have previously asked us not to send you a list of available positions, **that** preference will be **ignored**

CORRECT [if the **latter** is meant] by

being more specific

If you have previously asked us not to send you a list of available positions, **that** preference will be **retained**

ALERT Check whether **effect** should be replaced by a **more informative word**

The experiments confirmed the **effect** of quinine on cell volume

STYLE *Word usage*: vague, uninformative

CHANGE by **being more specific**

The experiments confirmed that quinine **increased/decreased** cell volume

Affected

past participle of the verb to affect

NOTE *Vague word*: often used unnecessarily, replace by **what was affected** [or omit]

ALERT Check whether **affected** should be replaced by a **more informative word**

Removal of the membrane was **affected** by application of detergent

STYLE *Word usage*: vague, uninformative, can be shortened

CHANGE by **rewriting the sentence** and **explaining how it was affected**

The membrane **was removed** by application of detergent
 The membrane **was removed** with detergent

Affectation/affection

<i>affectation</i>	behaviour, speech or writing that is pretentious, designed to impress	After the lecture he dropped his officious speech affectation
<i>affection</i>	a gentle feeling of fondness or liking	She felt affection for the wise old professor
	a morbid condition or diseased state	They all suffer from an affection of the skin

Affixes

See: [Ad-/circum-/in-/inter-fixes](#)

Affinity between/for/of/to/with

<i>between</i>	the components having the affinity	The affinity between antibody and antigen was high
<i>for</i>	of one component and the other	He reported the antibody's affinity for antigen
<i>of</i>	belonging to one component	We examined the affinity of the antibody for antigen

After

subordinating conjunction, adverb of time during the period of time following an event Sterilise the instruments **after** the operation

See: [After/during](#), [After/following](#), [After/subsequent/subsequent to](#)

ALERT Check when **after** is used with an **ordinal number**

Prostatic cancer is the **second-leading** cause of cancer-related deaths in men **after** lung cancer

ERROR *Semantics:* ambiguous, as there is no comma before **after**, this implies there is a **first-leading** cause **after lung cancer** so **this could be interpreted as** prostatic cancer being the leading cause of cancer-related deaths in men

after lung cancer [*i.e.* is **second** in rank]

or

after lung cancer **and** the first-leading cancer [*i.e.* is **third** in rank]

CORRECT [if the **former** is meant] by

omitting after lung cancer

Prostatic cancer is the **second-leading** cause of cancer-related deaths in men

omitting second-

Prostatic cancer is the **leading** cause of cancer-related deaths in men **after** lung cancer

inserting a comma before **after**, to introduce a descriptive phrase of the main cause of cancer

Prostatic cancer is the **second-leading** cause of cancer-related deaths in men, **after** lung cancer

inserting brackets to enclose the main cause of cancer

Prostatic cancer is the **second-leading** cause of cancer-related deaths in men (**after** lung cancer)

CORRECT [if the **latter** is meant] by

omitting second- and listing those cancers ranking **before the prostate**

Prostatic cancer is the **leading** cause of cancer-related deaths in men **after testicular and lung cancer**

replacing second by third and **inserting a comma** before **after**, to introduce a descriptive phrase of the main causes of cancer

Prostatic cancer is the **third-leading** cause of cancer-related deaths in men, **after** testicular and lung cancer

replacing second by third and **inserting brackets** to enclose the predominant causes of cancer

Prostatic cancer is the **third-leading** cause of cancer-related deaths in men (**after** testicular and lung cancer)

After/during

<i>after</i>	during the period of time following an event	Spermatozoa can be recovered from the female tract after ejaculation
<i>during</i>	at the time of, throughout the duration of an event	Epididymal spermatozoa are mixed with accessory gland fluids during ejaculation

See: [After/following](#), [Between/during](#)

ALERT Check that **during** refers to a current process

Semen samples were collected **after** ejaculation

ERROR *Semantics:* ambiguous, how else is ejaculated semen collected?

CORRECT [if ejaculation was the **method** of obtaining semen samples] by

replacing after by during or by

Semen samples were collected **during/by** ejaculation

CORRECT [if a **specific time** after ejaculation is intended] by

stating the time and **inserting a previous**

Semen samples were collected **24 h after a previous** ejaculation

CORRECT [if a **specific method** of ejaculation was used] by

replacing after with by and **stating the method**

Semen samples were collected **by electroejaculation**

Spermatozoa start to lose their CDs in the cauda epididymidis and have completely shed them **during** ejaculation

ERROR *Semantics:* ambiguous, **it is unclear** whether **spermatozoa were examined during**, or **conclusions were drawn after** ejaculation

CORRECT [if a statement is made from spermatozoa observed **after** ejaculation] by

replacing during by after

Spermatozoa start to lose their CDs in the cauda epididymidis and have completely shed them **after** ejaculation

replacing have by must have

Spermatozoa start to lose their CDs in the cauda epididymidis and **must** have completely shed them **during** ejaculation

After/following

<i>after</i>	preposition	during the period of time following an event
--------------	-------------	--

requires no logical connection between the linked words

Members are invited take tea in the Common room **after** the meeting

[there is **no logical** connection between taking **tea** and the **meeting**]

Chemical costs have gone up **after** the fuel price increase

[there is a **hint** of cause and effect between **fuel prices** and the **cost** of shipping chemicals]

following adjective

next in time

before the **noun**

For the **following reasons** I have decided to cancel the Saturday lecture...

noun

what follows or comes next

as subject of **verb**

The **following are** my reasons: it is too expensive, too time-consuming and will not provide sufficient information

preposition

coming after or as a result of

requires a logical connection between the linked words

Chemical costs have gone up **following** the fuel price increase

[there is a **definite** cause and effect between **prices** and **cost**]

See: [By following/following, Following](#)

ALERT Ensure that what follows **after** *does not* introduce **confusion**

Semen analysis is regarded as the best predictor of germ cell toxicity **after** cancer therapy

ERROR *Semantics:* ambiguous, **it is unclear** what **after** refers to, ranking or time

so **this could be interpreted as** semen analysis

being the **second-best** germ cell toxicity predictor

[**after** relating to **rank**]

or

not being the **best** germ cell toxicity predictor **before** cancer therapy

[**after** relating to **time**]

or

being the **best predictor** of cancer-related the germ cell toxicity

[**after** relating to **time**]

CORRECT [if the **1st** is meant] by

replacing **best** by **second-best** and inserting a **comma** before **after**

Semen analysis is regarded as the **second-best** predictor of germ cell toxicity, **after** cancer therapy

CORRECT [if the **2nd** is meant] by

rewriting **the sentence**

Only after cancer therapy is semen analysis regarded as the best predictor of germ cell toxicity

CORRECT [if the **3rd** is meant] by

replacing **predictor** by **detector** and inserting the **definite article** and **that occurs**

Semen analysis is regarded as the best **detector** of the germ cell toxicity **that occurs** after cancer therapy

We know we can prepare the genetically modified construct **after** a detailed study

ERROR *Semantics:* ambiguous, **it is unclear** what the **after** refers to, preparing or being able to

so **this could be interpreted as**

the preparation **can only begin after detailed study** of the necessary primers and constructs etc.

or

only after detailed study could we conclude that we were permitted to prepare the construct

CORRECT [if the **former** is meant] by

replacing **after** by **from** and inserting **what was studied**

We know we can prepare the genetically modified construct **from** a detailed study **of relevant methods**

CORRECT [if the **latter** is meant] by

rewriting **the sentence** by stating **what was studied and concluded**

After a detailed study **of the relevant guidelines**, we know **we are permitted** to prepare the genetically modified construct

ALERT Check that **following** joins clauses with a **logical connection**

Following incubation with primary antibodies, sections were counter-stained

ERROR *Syntax:* there is a **temporal** not a **logical connection** between adding antibodies and counter-staining

CORRECT by replacing **following** by **after**

After incubation with primary antibodies, sections were counter-stained

Following the previous method, western blotting was performed

ERROR *Semantics:* ambiguous, it is unclear whether **following** is used a **preposition** or **adjective**

so **this could be interpreted as**

a method had been done previously (**before** the western blotting)

[**following** as a **preposition**]

or

the western blotting method was done **as per** instructions in a previously published method

[**following** as an **adjective**]

CORRECT [if the **former** is meant] by

inverting **the sentence** and replacing **following** by **after** and being **specific**

Western blotting was performed **after results from the previous method had been obtained**

CORRECT [if the **latter** is meant] by

inverting **the sentence** and replacing **following** with **by following**

Western blotting was performed **by following** a previously published method

After/subsequent/subsequent to

after

preposition

after in time

Chromatin compaction occurs **after** the phosphorylation peak

subsequent

adjective

coming after something in time, following

I intend going to this and **subsequent** meetings

subsequent to

quasi-adverb

(informal)

as an inevitable consequence of, after

Chromatin compaction occurs **subsequent to** phosphorylation

The theory was developed **subsequent to** the new results

See: [Plain English](#), [Prepositions](#), [Prior/subsequent](#), [Subsequent/subsequently](#)

After sedimentation by centrifugation

Style: verbosity, can be shortened: replace by **after centrifugation** [unless centrifugation is contrasted with sedimentation by another method]

After that/afterwards

<i>after that</i>	prepositional phrase in the time following an event, afterwards	Sperm suspensions were first added; after that chemo-attractant was added
<i>afterwards</i>	adverb at a later or future time, after that	Sperm suspensions were first added; afterwards chemo-attractant was added

NOTE equivalent grammatical constructions

After-/fore-word

<i>afterword</i>	a concluding section of manuscript or book	The book concludes with an afterword summarising the previous entries
<i>foreword</i>	a preface to a manuscript or book	The foreword explains what the contributors were asked to discuss

Again

once more

NOTE *Overused word*: often used unnecessarily [omit]

ALERT Check that **again** is *not* used with words **implying repetitive action** (especially those containing the prefix **re**)

He repeated his advice **again**

ERROR *Tautology*: as both **repeat** and **again** imply repetitive action, one word is **superfluous**

CORRECT [if his advice was given **once**] by **using one or the other**, not both, by

omitting again

He **repeated** his advice

replacing repeated by **gave**

He gave his advice **again**

CORRECT [if his advice was given a **more** than once] by

replacing again by **once more**

He repeated his advice **once more**

Age

See: [Geological time](#)

Age/years of age/years old

<i>age</i>	noun	the length of time that an item has lived or existed	The father's age was 55 years
<i>years of age</i>	adjective predicative	years old	The father was 55 years of age
<i>years old</i>	adjective predicative	years of age	The father was 55 years old

See: [Year-old/years old](#)

ALERT Check that **age** is not used with a word implying age

This occurred at paternal **age** more than **55 years old**

ERROR *Tautology*: as **years old** implies **age**, one word is **superfluous**

CORRECT by **using one or the other**, not both, by

omitting old

This occurred at paternal **age** more than **55 years**

replacing at paternal age by **when the father was**

This occurred **when the father was** more than **55 years old**

Age/old/young

<i>age</i>	noun	the length of time a person or animal has lived or existed	His age was 23 when he got his PhD
<i>old</i>	adjective	having lived or existed for a long time	He was not as old as I when he retired
<i>young</i>	adjective	having lived or existed for a short time	He was young when he got his PhD

NOTE **Young** people have a **low** age; **old** people have a **great** age

ALERT Check that **young** and **age** are not used in the same sentence

In this study the animals were of **older age** than those in our previous study

ERROR *Semantics*: only **objects**, **not ages**, can be **young** or **old** (a measure of **age**)

CORRECT by

omitting of and age

In this study the animals were **older** than those in our previous study

replacing older by **greater**

In this study the animals were of **greater age** than those in our previous study

Ageing/aging

<i>ageing</i>	present participle of the verb to age
<i>aging</i>	confusion with American English

Agenda (Latin)

a list of items to be discussed at a formal meeting
agenda is a **plural** noun *treated as singular*
 the singular (agendum) *is not* used

He put publications at the top of his **agenda**

Agenda is/are

is **agenda** is a **plural** noun treated as **singular** The **agenda** for Friday's meeting *is* on the website

Agglutination/aggregation of spermatozoa

agglutination the **specific** adherence of

motile spermatozoa to **each other**

the motility

is often vigorous with a shaking motion

is limited when very agglutinated

the extent can be graded

grade 1 isolated <10 spermatozoa per agglutinate, many free spermatozoa

grade 2 moderate 10–50 spermatozoa per agglutinate, free spermatozoa

grade 3 large agglutinates of >50 spermatozoa, some spermatozoa still free

grade 4 all spermatozoa agglutinated and agglutinates interconnected

the site of attachment varies

grade A Head-to-head

grade B Tail-to-tail (heads are seen to be free and move clear of agglutinates)

grade C Tail-tip-to-tail-tip

grade D Mixed (clear head-to-head and tail-to-tail agglutinations)

grade E Tangle (heads and tails enmeshed. Heads are not clear of agglutinates).

aggregation the **non-specific** adherence of

motile spermatozoa to **mucus strands, non-sperm cells or debris**

immotile spermatozoa to **each other**

Aggravate/irritate

aggravate to make worse

The problems have been **aggravated** by neglect

irritate to annoy, to make someone angry

The persistent questions **irritated** the lecturer

to cause inflammation or other injury

The rubber gloves **irritated** his sensitive skin

Ago/by/since

ago at a **given time before** the **present**

with the **simple past** tense

I **started** my research 40 years **ago**

by at a **specific** time

with the **past perfect** tense

By 1985 I **had written** 50 papers

since in the **period between** a **given time** and the **present**

with the **present perfect** tense

I **have done** research **since** 1970

See: [Because/for/since](#), [By/until](#), [By/with](#), [For/since/until](#), [Since](#), [Since/therefore](#), [Since/until](#)

ALERT Check whether you mean **ago** or **since**

I started my research **since** seven years

ERROR *Syntax*: **since** **requires a specific time**, not a duration

CORRECT *by*

replacing **since** by **ago**

I started my research seven years **ago**

omitting **since seven years** and **providing** the **date**

I started my research **in 2000**

Agree about/on/to/with

about something plural

They agreed **about** the methods to be employed

on something singular

They agreed **on** a research plan

to something

He agreed **to** the substitution of ethanol by ether

with someone

I agree **with** his views **on** separating abnormal spermatozoa

[**only people** can **agree**]

ALERT Check that **agree with** refers to a subject **capable of agreeing**

Our results **agree** with Petrunkina

ERROR *Semantics*: insentient **results** are being compared with a **person**

CORRECT [to compare results of two studies] *by*

inserting **those of**

Our results agree with **those of** Petrunkina

replacing **Petrunkina** by **Petrunkina's results**

Our results agree with **Petrunkina's** results

replacing **Petrunkina** by **Petrunkina's**

Our results agree with **Petrunkina's**

The high abundance of GlcNAc in the acrosomal ridge **agrees with** a role for GlcNAc in capacitation

ERROR *Semantics*: an **abundance** is **insentient and cannot** make agreements

CORRECT *by* **using** words that **imply agreement**

The high abundance of GlcNAc in the acrosomal ridge **supports the view that** GlcNAc **plays** a role in capacitation

Agreement

harmony or accordance in opinion or feeling

[**only people** can be in **agreement**]

See: [Accord/agreement](#)

ALERT Check that **in agreement with** refers to a subject **capable of agreeing**

The high expression of EEAC1 protein in the initial segment is in **agreement** with the RT-PCR results of its mRNA

ERROR *Syntax:* an **expression** is **insentient and cannot** be in agreement with anything

CORRECT by **replacing in agreement** by **consistent**

The high expression of EEAC1 protein in the initial segment is **consistent** with the RT-PCR results of its mRNA

Ahead of

in front of She walked **ahead of** him along the corridor

in store for, awaiting We have a long drive **ahead of** us

earlier than Elimination of trade barriers came five years **ahead of** schedule

Aim

noun a purpose or intention, a desired outcome Our overall **aim** is to produce a male contraceptive

[**only people** can have **aims**]

verb to have the intention of achieving The group **aimed** at elucidating the epididymal role in sperm maturation

ALERT Check that only people have **aims**

Interventions **aim** to improve knowledge in this area

ERROR *Syntax:* **interventions** are **insentient and cannot** have aims

CORRECT by **replacing the active** by the **passive** voice

Interventions **were aimed** at improving knowledge in this area

Aim at/for/to

at an object followed by a **gerund** Our work is **aimed at understanding** the provision of sperm osmolytes

for an object followed by a **noun** **Aim for the journal** with the highest Impact Factor

to the infinitive marker followed by a **base infinitive** Our scientists **aim to find out** how the epididymis provides osmolytes

Aiming

non-finite forms of the verb to aim

a **participle** (verbal adjective) and **gerund** (verbal noun)

Aiming/hoping/intending to

aiming to medium certainty I am **aiming to** write a review of sperm volume regulation

hoping to weak certainty I **hope to** start the experiments next month

intending to strong certainty I **intend to** submit the review this morning

See: [Certainty/uncertainty](#)

Alarmed

to be frightened, worried The students were **alarmed** when they saw smoke in the culture room

[**only people** can **be alarmed**]

does not mean fitted with an alarm

ALERT Check that **alarmed** pertains to animate objects

These safety doors are **alarmed**

ERROR *Syntax:* a **door** is **insentient and cannot** be alarmed

CORRECT by **replacing the participle** by its related **noun**

These safety doors are **fitted with** an **alarm**

Albeit/although/though

albeit adverb of concession conceding the fact that Progress was being made, **albeit** rather slowly [from **although it be**]

although subordinating conjunction in spite of the fact that It's good, **although** it's unlikely to be published [more formal than **though**]

though adverb nevertheless, however He did his duty, **though** [may end a sentence]

subordinating conjunction but, despite the fact that He was Chulavatnatol, **though** he was called Chula [less formal than **although**]

Though only 30, he already has prostatic cancer

See: [If/though](#)

Albumin/albumen

albumin serum protein synthesized in the liver

albumen egg white or the protein contained in it

Algorithm/paradigm

algorithm a process or set of rules used in calculations

paradigm a conceptual model underlying a theory, a typical example

His **algorithm** employs simple and can be stated in 10 lines

The new course should emphasise a teaching over a learning **paradigm**

ALERT Check that **paradigm** is meant

Spermatogenesis is a pivotal **paradigm** in mammals

ERROR *Syntax*: a process is not a model

CORRECT by replacing **paradigm** by **process**

Spermatogenesis is a pivotal **process** in mammals

Aliquant/aliquot

aliquant a portion of a larger sample

mathematically a **number** *not* contained in a larger number an exact number of times

A 5-μl **aliquant** of eosin dye solution

Five is an **aliquant** of 49, **seven** is an **aliquant** of 50

aliquot a portion of a larger sample

mathematically a **number** contained in a larger number an **exact** number of times

A 5-μl **aliquot** of eosin dye solution

Five is an **aliquot** of 50, **seven** is an **aliquot** of 49

Aliquoted/aliquotted

aliquotted **aliquot** is a **polysyllabic** word with **emphasis** on the **last syllable** [final consonant **doubled** when a suffix added (unless it is L or R)]

Aliquoting/aliquotting

aliquotting **aliquot** is a **polysyllabic** word with **emphasis** on the **last syllable** [final consonant **doubled** when suffix added (unless it is L or R)]

Alive/live

alive predicative adjective

The cells are **alive**

live attributive adjective

The **live** cells attach to the surface

verb

The animals normally **live** in the ocean

ALERT Check which form of **live** is needed

We characterised the association of RANTES with **alive** spermatozoa

ERROR *Syntax*: the adjective before a noun is the **attributive** form

CORRECT by replacing **alive** by **live**

We characterised the association of RANTES with **live** spermatozoa

The attached cells were **live**

ERROR *Syntax*: the adjective after a verb is the **predicative** form

CORRECT by replacing **live** by **alive** or **living**

The attached cells were **alive/living**

Alkaline pH

See: [Acidic/alkaline pH](#)

All

the whole quantity or extent of a particular item

indefinite pronoun

as subject of a **verb**

All *is* well now

quantitative determiner

defining the **noun**

All *students* are equal

NOTE *Overused word*: often used unnecessarily [**omit**]

ALERT Check whether **all** is necessary

The proteins AK1, AK2, AK3 and AK4 were **all** expressed in the epididymis

ERROR *Tautology*: as **every one of** the proteins discussed is listed, **all** is **superfluous**

CORRECT by **omitting all**

The proteins AK1, AK2, AK3 and AK4 were expressed in the epididymis

All/all of

all indefinite pronoun, quantitative determiner/adjective

All the treatments were effective

all of quantitative determiner/adjectival phrase

All of the treatments were effective

Style: **of** is **unnecessary**, **all** alone is **sufficient**

All/any

all for **positive** contexts with the **plural**

I **shall** do it on **all occasions**

any for **negative** contexts with the **singular**

I **shall not** do it on **any occasion**

ALERT Check that **all is not** used with a **negative**

The treatment **did not** decrease the mRNA in **all** epididymal **regions**

ERROR *Syntax*: **all is not** used with a negative verb

CORRECT by replacing **all** by **any** and the **plural** with the **singular**

The treatment **did not** decrease the mRNA in **any** epididymal **region**

All/each

all the whole quantity or extent of a particular item

All subjects signed an informed consent **form**

[**each** subject signed an **individual** form or a **common** form]

All subjects signed informed consent **forms**

[**each** subject signed **more than one** form]

each every one of a group

Each subject signed an informed consent **form**

[**each** subject signed an **individual** form or a **common** form]

	Each subject signed informed consent forms	[each subject signed more than one form]
ALERT	Check that the use of all <i>does not</i> cause confusion	
	All subjects signed an informed consent form	
ERROR	<i>Semantics</i> : ambiguous, it is unclear why all is <i>plural</i> and form is <i>singular</i> so this could be interpreted as Every subject signed one form [the same form for all subjects] or Each subject signed one form [an individual form for each subject]	
CORRECT	[if the former is meant] by being specific Each subject signed the same informed consent form	
CORRECT	[if the latter is meant] by being specific Each subject signed an individual informed consent form	
	All subjects signed informed consent forms	
ERROR	<i>Semantics</i> : ambiguous, it is unclear why all and forms are <i>plural</i> so this could be interpreted as Every subject signed many forms or Every subject signed an individual form	
CORRECT	[if the former is meant] by being specific Each subject signed several informed consent forms	
CORRECT	[if the latter is meant] by being specific Each subject signed an individual informed consent form	
All/none of		
all of	for positive contexts	All of the patients have cryptorchidism
none of	for negative contexts	None of the patients have cryptorchidism [Not any of the patients have cryptorchidism] None of the patients has cryptorchidism [Not one of the patients has cryptorchidism]
See: All/all of , None of... is/are		
ALERT	Check that all <i>is not</i> used in a negative context	
	All of the drugs were ineffective	
STYLE	<i>Word usage</i> : all of <i>is not</i> used with a negative adjective	
CHANGE	by replacing all of by none of and using a positive adjective None of the drugs were effective	
	All of the patients have no cryptorchidism	
STYLE	<i>Word usage</i> : all of <i>is not</i> used with a negative intent	
CHANGE	by replacing all of by none of and omitting no None of the patients have cryptorchidism	
	All results for pregnancy rate comparisons did not change when adjusted for sperm motility	
STYLE	<i>Word usage</i> : all <i>is not</i> used with a negative verb	
CHANGE	by replacing all by none of the and using a positive verb None of the results for pregnancy rate comparisons changed when adjusted for sperm motility	
All/nothing		
all	for positive contexts	Yes, all is for sale
nothing	for negative contexts	No, nothing is for sale
All/the		
all	the whole quantity or extent of a particular item	All isoforms were present
the	definite article indicating certain items referred to before	The three isoforms characterised were present
ALERT	Check whether all is necessary	
	Positive results were obtained for Dvl by using a pair of common primers for all the three isoforms of Dvl1-3	
ERROR	<i>Tautology</i> : as both all the and the three refer to the total number of isoforms, one phrase is superfluous	
CORRECT	by using one or the other , not both, by omitting three	
	Positive results were obtained for Dvl by using a pair of common primers for all the isoforms of Dvl1-3	
	omitting all	
	Positive results were obtained for Dvl by using a pair of common primers for the three isoforms of Dvl1-3	
All but		
very nearly, almost	The subject was all but forgotten, until the new lecturer arrived	
all except	We have support from all but one of the networks	
All is/are		
is	when all <i>refers to</i> a singular count object	Of the syllabus all <i>is</i> taught in the first year
	a mass noun	Of the split ejaculate all <i>was</i> analysed
	a group of count objects considered as one unit	From the sperm head pellet all <i>was</i> analysed

are when **all** refers to a group of count **objects** considered **together (many)** Of the immotile *spermatozoa*, **all are** dead

All is not/not all is...

<i>all is not...</i>	not negates...	All is not well	[Everything is not well —nothing is well]
<i>not all is...</i>	not negates all	Not all is well	[Not everything is well—but some things are]
		Not all items are on sale	[Not everything is on sale—but some items are]

See: [Everything/nothing](#)

All... is/are

<i>is</i>	when all refers to	a singular count object	All the <i>syllabus</i> is taught in the first year
		a mass nouns	All hope is lost
<i>are</i>	when all refers to	a group of count objects considered together (many)	All spermatozoa are motile

All of

See: [All/all of](#)

All of... is/are

<i>is</i>	when all of refers to	a singular count object	All of the <i>syllabus</i> is taught in the first year
		a mass noun	All of the <i>semen</i> was collected in the vessel
<i>are</i>	when all of refers to	a group of count objects considered together (many)	All of the <i>spermatozoa</i> were acrosome-reacted

All ready/already

<i>all ready</i>	adverbial phrase	determiner followed by an adjective prepared used with the active voice	The solutions are all ready to be used
<i>already</i>	adverb	before, by now, by the time in question used with the passive voice	I can't believe you have done it already This principle had already been described by 1967

ALERT Check that **already** is necessary

Studies revealed a significant reduction in the expression of IS-specific genes **already** at 21 days pp

ERROR *Tautology*: as **already** refers to the time in question, and the **time is given**, **already** is **superfluous**

CORRECT by

omitting already

Studies revealed a significant reduction in the expression of IS-specific genes at 21 days pp

rewriting the sentence

Studies revealed that by 21 days pp the expression of IS-specific genes had **already** been significantly reduced

ALERT Check that **already** is used with the correct tense

This principle was **already** described in 1941

ERROR *Syntax*: **already** is used with the past passive tense

CORRECT by

replacing already by **even**

This principle was **even** described in 1941

replacing the **simple past** by the **past perfect** tense

This principle **had already been described** by 1941

ALERT Check that **already** is positioned correctly

Some safety aspects should have been **already** considered

STYLE *Word order*: **already** is placed **after the main verb**

CHANGE by **moving already**

after the auxiliary verb

Some safety aspects **should already** have been considered

after the main verb

Some safety aspects should have been **considered already**

All right/alright

<i>all right</i>	formal	adverbial phrase	determiner followed by an adjective adequate, satisfactory	The conference dinner was all right
<i>alright</i>	informal			

All together/altogether

<i>all together</i>	adverbial phrase	determiner followed by an adjective collectively, all at once taken together	We worked all together on the manuscript All together , these results indicate activation of proton secretion
<i>altogether</i>	adverb	completely, entirely, totally	We were altogether too tired to finish the manuscript Altogether the duct is 60 metres in length

All ways/always

<i>all ways</i>	adverbial phrase	determiner followed by a noun every method, direction, condition	He tried all ways , but none of the methods worked
<i>always</i>	adverb	at all times, on all occasions as a last resort, failing all else	He always corrects the grammar first If we can't get on, we can always resign

Allegedly

adverb used to describe a whole clause
placed at the **beginning** of the sentence

Allegedly, she plagiarised her supervisor's thesis
[It is **alleged that** she plagiarised her supervisor's thesis]

according to what some say expressing the speaker's belief that the information given is **not necessarily true**

Allergen/allergenic/allergic/allergy

<i>allergen</i>	noun	an agent causing an allergy	Pollen is an allergen , causing hay fever
<i>allergenic</i>	adjective	causing an allergic reaction	Pollen is allergenic , causing hay fever
<i>allergic</i>	adjective	caused by, or related to, an allergy	Hay fever is an allergic reaction to pollen
			She is allergic to pollen
<i>allergy</i>	noun	a disease caused by an allergen	People with hay fever suffer from an allergy to pollen

Alleviate/ameliorate

<i>alleviate</i>	to ease, lessen, make less severe, reduce	The drug helped to alleviate his pain
<i>ameliorate</i>	to make or become better	The team worked to ameliorate the effects of the infection

Allocate into/to

allocate to The subjects were **allocated to** one of three experimental groups

Allot/alot

allot to give or apportion something to someone All speakers are **allotted** 15 min to present their work

Allow/allow for

<i>allow</i>	to let someone do or have something, to permit	I was allowed to use the sterile work bench
	to give the necessary time or opportunity for	The computer program allows measurements of head size to be made
<i>allow for</i>	to make provision or provide scope for	The laboratory partitions were moved to allow for a larger microscope room
	to take something into account when making plans	The fees were increased to allow for inflation

Allow/permit

<i>allow</i>	to let someone do something	The students were allowed into the laboratory after the lecture ended
<i>permit</i>	officially to allow someone to do something	Only after putting on cap, face mask and gloves are people permitted into work area

Allude/elude

<i>allude to</i>	to suggest or draw attention to indirectly, to hint at	She alluded to the possibility of his getting a first class degree
	to mention without discussing at length	I shall allude briefly to the main points
<i>elude</i>	to fail to be attained	The first class degree eluded him
	to fail to be understood or remembered	The logic of his argument eluded most of the audience

Almost

not quite, very nearly He has **almost** finished the copy-editing; give him 15 min more

Almost unique

not unique, but one of a very **few** such items, rare

See: [Absolute adjectives](#), [Almost](#), [Unique](#)

Along the lines of

Style: verbosity, can be shortened: replace by **such as/to the same effect [or omit]**

See: [Like/such as](#)

Along with

in company with, at the same time as

ALERT Check that the verb agrees with the subject when **along with** is used

The professor, **along with** her student, **were** doing surgery in the hospital

ERROR Syntax: **with** is a preposition and **does not** govern a verb; the subject (**professor**) is singular

CORRECT by **using the singular**

The professor, along with her student, **was** doing surgery in the hospital

Also/in addition/on the other hand

also as well, in addition, too

before a noun

before the main verb

after an auxiliary verb

in addition as an extra item, also

on the other hand as an alternative

I have a scalpel and **also** **scissors** for the surgery

I **also** **agree** this is a good thesis

I have the copy; I **also** **have** the original version

They **were** **also** able to show this behaviour

I **have** **also** seen this occur with fishes

I have here the revised version; **in addition** I have the original

For this incision I could use a scalpel; **on the other hand**, scissors may be better

See: [Position of adverbs](#)

ALERT Check that **also** is positioned correctly

We showed **also** that protein secretion increased

STYLE *Word order:* **also** should be placed **before the main verb**

CHANGE by **moving also** before the **main verb**

We **also showed** that protein increased secretion [we showed other things in addition to the effect on secretion]

We showed that protein **also increased** secretion [the **protein** increased other things in addition to secretion]

We were able to show **also** that protein increased secretion

STYLE *Word order:* **also** should be placed **before the auxiliary verb**

CHANGE by **moving also** before the **auxiliary verb**

We were **also able** to show that protein increased secretion

ALERT Check that **also is not** used with words **implying an additional option**

In addition to its predictive potential, the technique may **also** be useful therapeutically

ERROR *Tautology:* as both **in addition** and **also** imply additional information, one term is **superfluous**

CORRECT by **using one or the other**, not both, by

omitting also

In addition to its predictive potential, the technique may be useful therapeutically

replacing in addition by **with**

With its predictive potential, the technique may **also** be used therapeutically

ALERT Check that **on the other hand is not** used with words **implying an option**

On the one hand the epididymis provides sufficient H₂O₂ to allow optimal disulphide bridging, **on the other hand** it **also** provides scavengers to protect spermatozoa from ROS attack

ERROR *Tautology:* as both **on the other hand** and **also** provide an alternative, one term is **superfluous**

CORRECT by **using one or the other**, not both, by

omitting hand and **also**

On the one hand the epididymis provides sufficient H₂O₂ to allow optimal disulphide bridging, **on the other** it provides scavengers to protect spermatozoa from ROS attack

replacing on the other hand by a **semicolon**

On the one hand the epididymis provides sufficient H₂O₂ to allow optimal disulphide bridging; it **also** provides scavengers to protect spermatozoa from ROS attack

Altered

past participle of the verb to alter changed or caused to be changed in character or composition

NOTE *Vague word:* often used unnecessarily, replace by **how it was altered** [or omit]

Alternate/alternative

<i>alternate</i>	adjective	every other, occurring by turns	She took the medication on alternate days (Monday, Wednesday, Friday)
	verb	to change sequentially between actions	The doctor advised him to alternate between ice packs and hot compresses
<i>alternative</i>	adjective	available as another choice	The gene exhibited alternative splicing
			When applying for tickets please provide an alternative date
			Because one did not work, they opted for the alternative treatment
	noun	does not mean other, new, revised either of only two possibilities	The evidence did not support one hypothesis; they opted for the alternative

See: [Alternative/choice/option/possibility](#)

ALERT Check that **alternative** is the intended word

As the first procedure did not work, they used an **alternate** method

ERROR *Semantics:* alternate is a **verb not** an **adjective**

CORRECT by **replacing alternate** by **alternative**

As the first procedure did not work, they used an **alternative** method

The seminar is cancelled; students will be informed when **alternative** arrangements have been made

ERROR *Semantics:* **alternative** implies a **choice** but no choice is mentioned

CORRECT by **replacing alternative** by **other** or **revised**

The seminar is cancelled; students will be informed when **other/revised** arrangements have been made

Alternative/choice/option/possibility

<i>alternative</i>	either of only two possibilities or options	The evidence did not support the first hypothesis, so they opted for the alternative [the number of alternatives is by definition one (one less than two options)]
<i>choice</i>	one of three or more possibilities or options	As the evidence did not support the other hypotheses, they opted for the third choice [the number of choices is one less than the number of options]
<i>option</i>	an available course of action, a possibility	One option is to go by train
<i>possibility</i>	an available course of action, an option	One possibility is that the cells are swelling

See: [Alternate/alternative, Choice/dilemma](#)

ALERT Check the **meaning** after using **alternative**

After assessing the situation I believe that there is **only one** alternative

ERROR *Tautology*: as **alternative** is by definition **the only other** course of action when one (of two) has been rejected, **alternative** is *superfluous*
 CORRECT [if there is **more** than one option] by
 replacing **alternative** by **choice**

After assessing the situation I believe that there is only one **choice**

Alternatively/or

alternatively	adverb	as another option or possibility	He can take the train; alternatively he can come by bus
or	non-adversative coordinating conjunction	links alternative grammatical equivalents	He can take the train or come by bus [clause or clause]

NOTE *Overused words*: often used unnecessarily [omit]

ALERT Check that **alternatively** is **not** used with words *implying* an alternative

He will **either** give the general talk **or** **alternatively** begin with the detailed lecture

ERROR *Tautology*: as both **either... or** and **alternatively** imply an alternative, one term is *superfluous*
 CORRECT by using **one or the other**, not both, by
 omitting **alternatively**

He will **either** give the general talk **or** begin with the detailed lecture

omitting **either** and replacing **or** by a **semicolon**

He will give the general talk; **alternatively** he will begin with the detailed lecture

Although

subordinating conjunction, adverb of concession

See: [Albeit/although/though](#)

Although/even though/though

although	conjunction	linking a subordinate clause to a main clause despite the fact that, even though, though but, however	Although he is old, he remains active in science He says he has a lab. coat, although I've never seen it
		[less emphatic than even though]	
even though	conjunctive phrase	linking a subordinate clause to a main clause despite the fact that, although, though	His talks are very good, even though he says so himself
		[more emphatic than although]	
though	conjunction	linking a subordinate clause to a main clause despite the fact that, even though, although can end a sentence	Though I did not enjoy the lecture, I enjoyed the jokes We had a long wait for the tickets; it was worth it though
		[as emphatic as although]	

See: [Despite/in spite of](#)

Although... but

Tautology: as both **although** and **but** are conjunctions, one word is *superfluous*: use **one or the other**, not both

See: [But, Conjunctions](#)

Although... does not mean

the subordinating conjunction **although** **does not** introduce a noun clause

ALERT Ensure that an **although** **does not** introduce a noun clause

Although no good argument has been put forward for it **does not mean** that it is not true

ERROR *Syntax*: as the conjunction **although** **cannot** introduce a noun clause, the verb **does not mean** has **no subject**
 CORRECT by
 inserting **that**

Although no good argument has been put forward for it **that** **does not mean** that it is not true

replacing **although** by **the fact that** or **that**

The fact that/That no good argument has been put forward for it **does not mean** that it is not true

Altogether

See: [All together/altogether](#)

Always

See: [All ways/always](#)

a.m./p.m.

a.m.	<i>ante meridiem</i> (Latin)	before noon	He gets up at 6 a.m.
p.m.	<i>post meridiem</i> (Latin)	after noon	He stops work at 6 p.m.

NOTE as meridiem means noon, noon itself and midnight are **neither** a.m. **nor** p.m.
 [both 12 hours **a.m.** (12 h before noon) and 12 hours **p.m.** (12 h after noon) are midnight]

Amaze/surprise

amaze to astonish, to surprise someone greatly

surprise to cause someone to feel astonishment or shock, to meet suddenly without warning

See: [Surprising/unanticipated/unexpected](#)

Ambiguous/ambivalent/equivocal

ambiguous with more than one meaning, equivocal
ambivalent with conflicting feelings about something or somebody
 [only people can be ambivalent]
does not mean ambiguous, indecisive, undecided
equivocal open to different interpretations, ambiguous

The wording of the Conclusion is **ambiguous**
 Some thought him a good lecturer, others bad, few were **ambivalent**

Your hypothesis cannot be proved since these data are **equivocal**

ALERT Check that **ambivalent** is the **intended word**

The second experiment provided **ambivalent** results
 ERROR **Syntax: experiments are insentient and cannot be ambivalent**
 CORRECT by **replacing ambivalent by ambiguous**
 The second experiments provide **ambiguous** results

Ambitransitive verbs

See: [Intransitive/transitive verbs](#)

Ameliorate

See: [Alleviate/ameliorate](#)

Amend/emend

amend to make minor changes to something, **not only** text The rule was **amended** to apply only to new students
emend to make corrections and revisions **only** to text He **emended** his memo by correcting the grammatical errors

Amiable/amicable

amiable likable for people and animals He is an **amiable** fellow
amicable friendly, peaceable for relationships, documents We came to an **amicable** agreement

Amid/amidst

amid surrounded by, in the middle of He was dozing **amid** the chaos in his room
amidst amid, mainly **British English** It is among the papers **amidst** the mess on my desk

Amid/among

amid applies to **mass** nouns During the move, the doctor sat **amid** the **chaos** in his room
 It is somewhere among the papers **amid** the **mess** on my desk
among within a group, applies to **count** nouns, amongst There was no difference **among** the **patients** in their response to the drug
 It is somewhere **among** the **papers** amid the mess on my desk

Among/amongst

among situated more or less centrally in relation to other things There was no difference **among** the patients in initial semen quality
amongst among, mainly **British English** A foreign student was **amongst** the winners of the poster prize

Among/between/in/of

among for relationships involving **more than two persons or things** The prize money was divided **among** the **top five** presenters
 The prizes were distributed **among** the **members** of the community
 for **one-to-many** relationships **collectively, equally and vaguely** There was little difference in response **among** the **monkeys** studied
between for relationships involving **two persons or things** The prize money was divided **between** the **winner** and **runner up**
 for **one-to-one** relationships **individually and specifically** Münster lies **between** Amsterdam, Düsseldorf and Hamburg
in referring to **one specific** group The prizes were distributed **in** the **community**
of referring to **one specific** item with the **singular** **Of the flow cytometers tested, one was** far better than the others
 [One of the cytometers tested **was** far better than the others]
more than one specific item with the **plural** **Of the flow cytometers tested, several were** far better than the rest
 [Several of the cytometers tested **were** far better than the rest]

ALERT Check that **among is not** used with **specified items**

Among the numerous B lymphocytes, mast cells and T cells, cytotoxic T cells are predominant
 ERROR **Syntax: among is not** used with specific items
 CORRECT by **replacing among by of**
Of the numerous B lymphocytes, mast cells and T cells, cytotoxic T cells are predominant
 [Cytotoxic T cells are the predominant cell type **of the** numerous B lymphocytes, mast cells and T cells present]

Among many

Tautology: as **among** implies **many**, one word is **superfluous**: use **among** or **many**

Lactose intolerance is common **among many** Thais
 ERROR **Tautology:** as **among** implies more than one (**many**), one word is **superfluous**
 CORRECT by **using one or the other**, not both, by
omitting many
 Lactose intolerance is common **among** Thais
rewriting the sentence by omitting among
 For **many** Thais lactose intolerance is common

Among the...

among the refers to several of a **plural group**
should not be used with terms implying only one (only, superlatives: best, first, most)

See: [Comparative/superlative](#), [One of the...](#), [Some of the...](#)

ALERT Check that **among...** *is not* used with a term **implying only one**

This is **among the highest/lowest** grant rankings I have received

ERROR *Oxymoron*: **among the** implies there is **more than one** but **highest/lowest** is a **superlative** (of which there is **only one**: nothing is as high/low)

CORRECT [if it is the highest/lowest ranking] by

omitting among and using the **singular**

This is **the highest/lowest** grant **ranking** I have received

CORRECT [if it is not the highest/lowest ranking] by

replacing the superlative by the **comparative** form of the adjective

This is **among the higher/lower** grant rankings I have received

replacing the superlative by the **absolute (positive)** form of the adjective

This is **among the high/low** grant rankings I have received

Among the best

Oxymoron: **among** refers to a **plural group** but **best** is a **superlative** (of which there is **only one**: nothing is its equal)

See: [Comparative/superlative](#), [One of the best](#), [Some of the best](#)

ALERT Check whether **best** should be used

This is **among the best** reports I've read

ERROR *Oxymoron*: **among** implies there is **more than one** but there is **only one superlative** (**best**: nothing is as good)

CORRECT [if it is the best] by

omitting among and using the **singular**

This is **the best report** I've read

CORRECT [if it is not the best] by

replacing the superlative by the **comparative** form of the adjective

This is **among the better** reports I've read

replacing the superlative by the **absolute (positive)** form of the adjective

This is **among the good** reports I've read

Among the first

Oxymoron: **among** refers to a **plural group** but **first** is a **superlative** (of which there is **only one**: nothing is its equal)

See: [Comparative/superlative](#), [One of the first](#), [Some of the first](#)

ALERT Check whether **first** should be used

This was **among the first** microscopes we received

ERROR *Oxymoron*: **among** implies **more than one** but there is **only one superlative** (**first**: nothing occurs earlier)

CORRECT [if it was the first received] by

omitting among and using the **singular**

This was **the first microscope** we received

CORRECT [if it was not the first received] by

replacing the superlative by the **comparative** form of the adjective

This was **among the earlier** microscopes we received

replacing the superlative by the **absolute (positive)** form of the adjective

This was **among the early** microscopes we received

Among the most

Oxymoron: **among** refers to a **plural group** but **most** is a **superlative** (of which there is **only one**: nothing is its equal)

See: [Comparative/superlative](#), [One of the most](#), [Some of the most](#)

ALERT Check whether **most** should be used

This is **among the most expensive** microscopes we have

ERROR *Oxymoron*: **among** implies **more than one** but there is **only one superlative** (**most**: nothing is as expensive)

CORRECT [if it is the most expensive] by

omitting among and using the **singular**

This is **the most expensive microscope** we have

CORRECT [if it is not the most expensive] by

replacing the superlative by the **comparative** form of the adjective

This is **among the more expensive** microscopes we have

replacing the superlative by the **absolute (positive)** form of the adjective

This is **among the expensive** microscopes we have

Among the only

Oxymoron: **among** refers to a **plural group** but **only** implies there is just **one**

See: [One of the only](#), [Only/solely](#), [Some of the only](#)

ALERT Check whether **only** should be used

This is **among the only** high value prizes we have won

ERROR *Oxymoron*: **among** implies **more than one** but **only** implies there is just **one**

CORRECT [if it is **the only** high value prize] by

omitting *among* and **using the *singular***

This is **the only** high value **prize** we have won

CORRECT [if it is **one of many** prizes] by

replacing *the only* by *several*

This is **among several** high value prizes we have won

Amount/extent

amount a quantity, in number, size, value, or extent

extent the area covered by something

the particular degree to which something is

The substance is harmless if taken in small **amounts**

The institute had an animal facility ten acres in **extent**

Everyone will have to compromise to some **extent**

Amount/number of

amount of applies to **mass** nouns

number of applies to **count** nouns

He has a large **amount of work** to get through

A large **number of jobs** remain vacant

An

indefinite article, general determiner

See: [Definite/indefinite/no article](#)

An/the aged

an with the **indefinite** article **aged** is an **adjective** of a specified or large age

the with the **definite** article **aged** is a **noun** (a nominal adjective) old people in general

An aged lecturer stood in for the sick one

Free clinical tests are given to **the aged**

See: [Nominal adjectives](#)

An/the infertile

an with the **indefinite** article **infertile** is an **adjective** unable to reproduce

the with the **definite** article **infertile** is a **noun** (a nominal adjective) infertile people in general

An infertile couple can seek treatment now

Free clinical tests are given to **the infertile**

See: [Nominal adjectives](#)

An anathema

See: [Anathema](#)

An order of magnitude

Style: verbosity, can be shortened: replace by **10 times**

See: [Orders of magnitude](#)

Analogous/homologous

analogous comparable in certain respects, making clearer the nature of the things compared

of organs

similar in **function** but **not** necessarily evolutionary **origin**

wings developed **independently** in insects, birds, bats and pterosaurs

music evolved **independently** in insects, birds, whales and humans

The mutant is defective for an **analogous** transport system

homologous having the same relation, relative position or structure

of chemicals

having the same functional group but differing in composition by a fixed group of atoms

The level of amino acid sequence divergence between **homologous** proteins is relatively low

of chromosomes

with the same structural features and pattern of genes

Crossing over ensures segregation of **homologous** chromosomes in meiosis I

of organs

similar in evolutionary **origin** but **not** necessarily **function**

A seal's flipper is **homologous** with the human arm

[formerly **homogenous**]

See: [Homogeneous/homogenous](#), [Mitosis/meiosis](#)

Analysate/analyse

analyse to examine methodically and in detail, in order to explain and interpret it

See: [Back-formation](#)

Analysated/analysed

analysed past participle of the verb **to analyse**

See: [Back-formation](#)

Analysation/analysis

See: [Analysis](#), [Back-formation](#)

Analysed

examined methodologically and in detail

NOTE *Overused word*: often used unnecessarily **[omit]**

ALERT Check whether the use of **analysed** is necessary

The epididymal segments **analysed** showed high activity

ERROR *Semantics*: ambiguous

so **this could be interpreted as**

there were **unanalysed** epididymal segments

or

the segments **analysed in this study** are compared with those in another

CORRECT [if the **former** is meant] by

omitting analysed

The epididymal segments showed high activity

CORRECT [if the **latter** is meant] by

inserting here

The epididymal segments **analysed here** showed high activity

Analysis

detailed examination of the elements or structure of something Semen **analysis** was performed as described in WHO (2010)

NOTE *Vague word*: often used unnecessarily **[omit]**

See: [Expression analysis/extent](#)

ALERT Check that **analysis** is the **intended word**

The immuno-histochemical **analysis** showed that the basal cells were stained intensely for the protein

ERROR *Semantics*: the staining of the basal cells is the **result** of the procedures, not the analysis itself

CORRECT by

replacing analysis by **results**

The immuno-histochemical **results** showed that the basal cells were stained for the protein

replacing analysis by **staining** and **stained** by **positive**

The immuno-histochemical **staining** showed that the basal cells were intensely **positive** for the protein

omitting analysis and **replacing immuno-histochemical analysis** by **immuno-histochemistry**

The **immuno-histochemistry** showed that the basal cells were stained for the protein

Analytic/analytical

analytic in grammar one of two forms of comparative and superlative adjective and adverb

analytical adjective relating to or using analysis or logical reasoning He has an **analytical** mind

See: [Comparative/superlative](#)

Analytic/synthetic

analytic a **comparative** or **superlative** form of an **adjective** or **adverb**

of a **different** word form for **superior** and **inferior** status

absolute (positive)

adjective: good

adverb: well

superior

inferior

superior

inferior

comparative

analytic

better

worse

better

worse

superlative

analytic

best

worst

best

worst

synthetic a **comparative** or **superlative** form of an **adjective** or **adverb**

of the **same** form but preceded by **more/most** (superior) or **less/least** (inferior)

absolute (positive)

adjective: good

adverb: well

superior

inferior

superior

inferior

comparative

synthetic

more good

less good

more well

less well

superlative

synthetic

most good

least good

most well

least well

See: [Adjectives](#), [Adverbs](#), [Comparative/superlative](#)

Anathema

adjective something that or someone whom you strongly dislike with **no article**

Anaesthetising the animals was **anathema** to him

noun something that or someone whom you strongly dislike takes an **article**

For him **an anathema** is anaesthetising animals

Anatomic/anatomical

anatomical adjective relating to bodily structure This is an **anatomical** abnormality

And

conjunction non-adversative, coordinating
connects grammatical equivalents

[noun **and** noun]

[adjective **and** adjective]

[adverb **and** adverb]

[phrase **and** phrase]

I'm proof-reading a **book** and a **manuscript**

The book is **thick** and **heavy**

I work **quickly** and **accurately**

I am **in the office** and **in a hurry**

is followed by the **plural** whether [clause **and** clause]
both subjects are **singular**
both subjects are **plural**
one subject is **plural** (and nearer the verb)

He prepares the medium and she aliquots the cells
 The **professor** and the **student were** to blame
 The **professors** and the **students were** to blame
 The professor **and** the **students were** to blame
 The student **and** the **professors were** to blame

NOTE because **and** (not alternatives, all events happening) precludes **or** (alternatives, only one event happening)
'and/or' ('and' or 'or': an oxymoron) **should not** be used

See: ['And/or', But, Conjunctions, Implied meanings of sentences, Or, Relative clauses](#)

ALERT Check that **clauses of equal importance** joined by **and** are separated by a comma

The monkeys were given fresh fruit **and** chow was given to the rats [noun **and** noun]
ERROR *Semantics:* discourteous, the reader **expects** that the **monkeys** were given chow
 and **then realises otherwise** [the **rats** were given chow]
CORRECT [where there would otherwise be confusion] by
separating clauses of equal importance **with a comma**
 The monkeys were given fresh fruit, **and** chow was given to the rats [clause, **and** clause]
inverting the order of the second clause **with no comma**
 The monkeys were given fresh fruit **and** the rats were given no water [clause **and** clause]

ALERT Check the **meaning** when an **participle** describes one of two nouns joined by **and**

Knockdown of the gene led to **decreased** nucleotide release **and** monocyte recruitment by apoptotic cells
ERROR *Semantics:* ambiguous, as **decreased** applies to the 1st noun (**release**) with **no comma**, it also refers to the 2nd noun (**recruitment**)
 it is unclear whether **this should be interpreted as** there being
decreased nucleotide release and **decreased** monocyte recruitment [lack of comma **deliberate**]
 or
 only **decreased** nucleotide release [lack of comma **an error**]
CORRECT [if the **former** is meant] by
repeating decreased for the second noun
 Knockdown of the gene led to **decreased** nucleotide release and **decreased** monocyte recruitment by apoptotic cells
using decrease as a **noun** and **inserting both**
 Knockdown of the gene led to **decreases** in **both** nucleotide release and monocyte recruitment by apoptotic cells
using decrease as a **verb** and **inserting both**
 Knockdown of the gene **decreased both** nucleotide release and monocyte recruitment by apoptotic cells
CORRECT [if the **latter** is meant] by
inserting a comma so that **and** joins two phrases of **equal importance**
 Knockdown of the gene led to **decreased** nucleotide release, **and** monocyte recruitment by apoptotic cells [phrase, **and** phrase]
inserting a comma and **to** so that **and** joins phrases of **equal importance**
 Knockdown of the gene led to **decreased** nucleotide release, **and to** monocyte recruitment by apoptotic cells [phrase, **and** phrase]
inserting an adjective to the second noun
 Knockdown of the gene led to **decreased** nucleotide release **and increased** monocyte recruitment by apoptotic cells [phrase **and** phrase]
omitting led to, using decrease as a **verb** and **inserting a verb** so that **and** joins phrases of equal importance
 Knockdown of the gene **decreased** nucleotide release **and initiated** recruitment of monocytes by apoptotic cells [clause **and** clause]

ALERT Check the **meaning** when a **gerund** is associated with one or more nouns joined by **and**

Avoiding trauma **and** systemic steroids is the method of choice
ERROR *Semantics:* ambiguous, as **avoiding** applies to the 1st noun (**trauma**) with **no comma**, it also refers to the 2nd noun (**steroids**)
 it is unclear whether **this should be interpreted as** what should be avoided
 are **both** trauma and steroids [lack of comma **deliberate**]
 or
 is trauma **only** [lack of comma **an error**]
CORRECT [if the **former** is meant] by
inserting both
 Avoiding **both** trauma and systemic steroids is the method of choice
CORRECT [if the **latter** is meant] by
inserting a second gerund and **replacing the singular** with the **plural**
 Avoiding trauma and **administering** systemic steroids **are the methods** of choice

The immune system prevents the establishment of an inflammatory environment that facilitates tumorigenicity
 by **eliminating** pathogens **and** the prompt resolution of inflammation
ERROR *Semantics:* ambiguous, as **eliminating** applies to the 1st noun (**pathogens**) with **no comma**, it also refers to the 2nd noun (**resolution**)
 it is unclear whether **this should be interpreted as** the prevention of tumours by
eliminating pathogens and **eliminating the prompt resolution** of inflammation [lack of comma **deliberate**] (inflammation persists)
 or
eliminating pathogens and **prompting the resolution of inflammation** [lack of comma **an error**] (inflammation prevented)
CORRECT [if the **former** is meant] by
repeating eliminating for the second noun
 The immune system prevents the establishment of an inflammatory environment that facilitates tumorigenicity
 by **eliminating** pathogens and **eliminating** the prompt resolution of inflammation
CORRECT [if the **latter** is meant] by
inserting a comma so that **and** joins two phrases of **equal importance**
 The immune system prevents the establishment of an inflammatory environment that facilitates tumorigenicity

by **eliminating** pathogens, **and** the prompt resolution of inflammation
 replacing the **adjective** by a **gerund**

The immune system prevents the establishment of an inflammatory environment that facilitates tumorigenicity
 by **eliminating** pathogens **and** **prompting** the resolution of inflammation

Under the new code of conduct, fines can be imposed for **failing to attend** lectures **and** indecent behaviour
 ERROR *Semantics:* ambiguous, as **failing to attend** applies to the **1st noun (lectures)** with **no comma**, it also refers to the **2nd noun (behaviour)**
 so **this could be interpreted as** the imposition of fines

both for **failing to attend lectures** and **failing to attend indecent** behaviour [lack of comma **deliberate**]

or

only for **failing to attend** lectures and for **performing** indecent behaviour [lack of comma **an error**]

CORRECT [if the **former** is meant] by

inserting both

Under the new code of conduct, fines can be imposed for failing to attend **both** lectures and indecent behaviour

CORRECT [if the **latter** is meant] by

repeating the **preposition** before the second noun

Under the new code of conduct, fines can be imposed **for** failing to attend lectures and **for** indecent behaviour

repeating the **preposition** and **inserting a gerund** for the second noun

Under the new code of conduct, fines can be imposed **for failing** to attend lectures and **for performing** indecent behaviour

And/&

and	non-adversative coordinating conjunction	used for joining nouns, phrases and clauses	
&	ampersand (conflation of and per se and)	used to join closely associated words	authors company names Cooper & Yeung (1982) Bausch & Lomb Merck, Sharp & Dome

NOTE the **use of &** is dictated by journal style or company

See: [And](#), [Typographical signs](#)

And/as well as

and	non-adversative, coordinating conjunction		
	linking similar grammatical equivalents	followed by a plural verb	The scientist and his student are well-liked
as well as	as a prepositional phrase		
	along with, in addition to, together with	does not govern a verb	
	with a singular subject	followed by a singular verb	The scientist as well as his students is well-liked
	with a plural subject	followed by a plural verb	The scientists as well as their students are well-liked

See: [And/with](#), [As well/as well as](#)

ALERT Check when using **as well as** that the verb **agrees in number** with the subject

The professor, **as well as** her students, **were** rehearsing the seminar talk

ERROR *Syntax:* **as well as** is a prepositional phrase, which **does not** govern the verb

CORRECT by **using the singular**

The professor, as well as her students, **was** rehearsing the seminar talk

And/but

and	non-adversative coordinating conjunction	links similar grammatical equivalents	I have a scalpel and [I have] some scissors
but	adversative coordinating conjunction	links contrasting grammatical equivalents	I have a scalpel but [I have] no scissors

See: [And](#), [But](#)

ALERT Check which **coordinating conjunction** is intended

It was **measured** in rats **and** not in mice

ERROR *Syntax:* as the clauses are contrasting, an **adversative conjunction** is required

CORRECT by **replacing and by but**

It was **measured** in rats **but** not in mice

And/or

and	non-adversative coordinating conjunction	links similar grammatical equivalents
	for listing items in general	The doses administered in this study were 0, 20, 50 and 100 mg/kg per day
	takes a plural verb	Eating and drinking are allowed in the social room
		Smoking, eating and drinking are allowed in the social room
or	non-adversative coordinating conjunction	links alternative grammatical equivalents
	for listing items in particular cases	Only the adult males were administered PCBs at doses of 0, 20, 50 or 100 mg/kg per day
	takes a singular verb	Eating or drinking is not allowed in the laboratory
		Smoking, eating or drinking is not allowed in the laboratory

See: [And](#), ['And/or'](#), [Or](#), [Slash/solidus](#)

ALERT Check which **coordinating conjunction** is intended

There are data on testicular and sperm toxicity for some antibiotics in rats **or** mice

ERROR *Semantics:* as studies were done in two species, they should be **linked** with a conjunction linking **similar** things

CORRECT by **replacing or by and**

There are data on testicular and sperm toxicity for some antibiotics in rats **and** mice

Many of the proteins, such as albumin, transferrin **or** testicular clusterin are reabsorbed in the efferent ducts

ERROR *Semantics:* as each of the proteins individually is reabsorbed, they should be **linked** with a conjunction linking **similar** things

CORRECT by **replacing or by and**

Many of the proteins, such as albumin, transferrin **and** testicular clusterin are reabsorbed in the efferent ducts

Of those in epididymal fluid, GPI-anchored proteins **or** those with hydrophobic properties are transferred to spermatozoa

ERROR *Semantics:* as each of the protein groups individually is transferred, they should be **linked** with a conjunction linking **similar** things

CORRECT by **replacing or by and**

Of those in epididymal fluid, GPI-anchored proteins **and** those with hydrophobic properties are transferred to spermatozoa

The correlation between the PEDT score and HbA1c (100 Type 1 diabetic patients) **or** LBG1 (30 diabetic patients with CGM) was examined

ERROR *Semantics:* as both patient groups are described, they should be **linked** with a conjunction linking **similar** things

CORRECT by **replacing or by and**

The correlation between the PEDT score and HbA1c (100 Type 1 diabetic patients) **and** LBG1 (30 diabetic patients with CGM) was examined

'And/or'

difficult to pronounce, shorthand, ugly, unnecessary

Ambiguous: as the slash could imply **or** or **and**

replace by **and** or **or**

Oxymoron: if the slash implies **and** (all things happening) it precludes **or** (only one event happening)

omit

Discourteous: if the slash implies **or** it requires the reader to make a decision even the author is unable or unwilling to make

if it is **unknown** whether the objects joined by the conjunctions occur alone (**or**) or together (**and**)

use **or** alone

[since **or** (alternatives) does not preclude **and** (no alternatives)]

use **or** followed by **or both** or **or all**

[implying the possibility of **and**]

See: [Conjunctions](#), [Slash/solidus](#)

ALERT Check how **and/or** can be replaced by a **more appropriate terms**

The drug decreases sperm count **and/or** sperm motility

ERROR *Semantics:* ambiguous, **it is unclear** whether / means **and** or **or**
so **this could be interpreted as**

the drug decreases **both** sperm count **and** sperm motility ['and/or' meaning **and**]

or

the drug decreases **either** sperm count **or** sperm motility ['and/or' meaning **or**]

CORRECT [if / means **and**] by

replacing and/or by and

The drug decreases sperm count **and** sperm motility

CORRECT [if / means **or**] by

replacing and/or by or

The drug decreases sperm count **or** sperm motility

replacing and/or by or and inserting or both

The drug decreases sperm count **or** sperm motility **or both**

The treatment leads to the upregulation of mRNA **and/or** protein expression

ERROR *Semantics:* ambiguous, **it is unclear** whether / means **and** or **or**
so **this could be interpreted as** the treatment leads

to **both** the upregulation of **mRNA** expression **and** the upregulation of **protein** expression ['and/or' meaning **and**]

or

to **either** the upregulation of **mRNA** expression **or** the upregulation of **protein** expression ['and/or' meaning **or**]

which itself could mean that the treatment could lead to

the upregulation of **mRNA** expression **but not** the upregulation of protein expression

or

the upregulation of **protein** expression **but not** the upregulation of mRNA expression

CORRECT [if / means **and**] by

replacing and/or by and

The treatment could lead to the upregulation of mRNA **and** protein expression

CORRECT [if / means **or**] by

replacing and/or by or

The treatment could lead to the upregulation of mRNA **or** protein expression

replacing and/or by or and inserting or both

The treatment could lead to the upregulation of mRNA **or** protein expression **or both**

being more specific

The treatment could lead to the upregulation of **mRNA but not** protein expression

The treatment could lead to the upregulation of **protein but not** mRNA expression

Male factor infertility (concentration <10x10⁶/ml **and/or** motility <30% **and/or** normal morphology <4%)

ERROR *Semantics:* ambiguous, **it is unclear** whether each / means **and** or **or**
so **this could be interpreted as**

male factor infertility (concentration <10x10⁶/ml)

or

male factor infertility (motility <30%)

or
 male factor infertility (normal morphology <4%)
 or
 male factor infertility (concentration <10x10⁶/ml **and** motility <30%)
 or
 male factor infertility (concentration <10x10⁶/ml **and** normal morphology <4%)
 or
 male factor infertility (motility <30% **and** normal morphology <4%)
 or
 male factor infertility (concentration <10x10⁶/ml **and** motility <30% **and** normal morphology <4%)

CORRECT [if **all** conditions have to be met] by

replacing **and/or** by **and**

Male factor infertility (concentration <10x10⁶/ml **and** motility <30% **and** normal morphology <4%)

CORRECT [if **only one** condition has to be met] by

replacing **and/or** by **or**

Male factor infertility (concentration <10x10⁶/ml **or** motility <30% **or** normal morphology <4%)

CORRECT [if **combinations** of **two** conditions have to be met] by

replacing **and/or** by **or** and inserting **or combinations of two**

Male factor infertility (concentration <10x10⁶/ml **or** motility <30% **or** normal morphology <4%) **or combinations of two**

And/with

and	non-adversative, coordinating conjunction		
	can govern a verb	singular subjects linked by and take the plural	The student and his mother are holding up the tea
with	preposition		
	cannot govern a verb	singular subjects followed by with take the singular	The student with his mother is holding up the team

See: [And/as well as](#), [Conjunctions](#), [Plus/with](#), [Prepositions](#), [Together with/with](#)

And moreover/moreover

and moreover	as moreover is a conjunction , it needs no additional conjunction (and) to precede it	
	permissible for emphasis if separated by a comma	It was a foolish suggestion and, moreover , it would cause offence
moreover	within a sentence	It was a foolish suggestion; moreover , it would cause offence

And neither/neither

and neither	as neither is a conjunction , it needs no additional conjunction (and) to precede it	
	permissible for emphasis if preceded by a comma	He does not believe the data, and neither does his supervisor
neither	within a sentence	Neither he nor his supervisor believes the data

And nor/nor

and nor	as nor is a conjunction , it needs no additional conjunction (and) to precede it
nor	conjunction

And so/hence/therefore

and so	conjunctive phrase	with the result that (informal)	They wrote it over the weekend and so they could make the deadline
hence	conjunction	as a result or consequence (formal)	He spent days rewriting it, hence he could submit before the deadline
therefore	conjunction	accordingly (formal)	The criticisms can therefore be expected to be serious
			The criticisms, therefore , can be expected to be serious
			Therefore the criticisms can be expected to be serious

See: [Hence/thence/whence](#)

And so/so/so that

and so	conjunctive phrase	and as a consequence	They worked quickly, and so they could leave early
so	conjunction	and for this reason, as a result	Everyone else had gone; so he went home
so that	conjunctive phrase	with the intention that	They worked quickly so that they could leave early

See: [In order to/so as to/to](#)

ALERT Check whether **so** alone conveys the **intended message**

They worked quickly, **so** they could leave early

ERROR *Semantics*: ambiguous

so **this could be interpreted as**

they worked quickly **for the purpose of** leaving early

or

they worked quickly, **and as a consequence**, they could leave early

CORRECT [if the **former** is meant] by

replacing **so** by **so that**

They worked quickly, **so that** they could leave early

replacing **so** by **in order that**

They worked quickly **in order that** they could leave early

CORRECT [if the **latter** is meant] by

replacing **so** by **and so**

They worked quickly, **and so** they could leave early

And so... therefore

Tautology: as both **and so** and **therefore** are conjunctions, one term is *superfluous*: use **one or the other**, not both

And so forth
and similar things

Style: verbosity, can be shortened: replace by **etc.**

And so on
and similar things

Style: verbosity, can be shortened: replace by **etc.**

And so on and so forth
Tautology: as this means **and similar things and similar things**, one phrase is *superfluous*: replace by **etc.** [or omit]

And that
almost always needs a parallel **that** preceding the **and**
The publication **that** was his third that year, **and that** was the longest to date, increased his Impact Factor

See: [Relative clauses](#), [That clauses](#)

And whatever
shorthand for **And whatever it may be**

ALERT Check whether **and whatever** should be replaced by a **more relevant term**

The monkeys were given vegetables, fruits **and whatever**
ERROR *Semantics*: vague, **no information is given** on what the provisions were
CORRECT by **avoiding shorthand** by
replacing whatever by **the like**
The monkeys were given vegetables, fruits **and the like**
being more specific
The monkeys were given vegetables, fruits and **essential nutrients**

And which
almost always needs a parallel **which** preceding the **and**
The publication, **which** was his third that year, **and which** was submitted for an award, was a citation classic

See: [Relative clauses](#)

And who
almost always needs a parallel **who** preceding the **and**
The student, **who** had the most publications, **and who** had the highest Impact Factor, also spoke well in public

See: [Relative clauses](#)

Angry at/with
at something She was angry **at** the unfair treatment of students
with someone He was angry **with** the professors

Ångström/nanometre
Ångström (Å) 10^{-10} m 1 Å = 0.1 nm
nanometre (nm) 10^{-9} m 1 nm = 10 Å

See: [Pronunciation of letters](#)

Annex/annexate
annex to add, to appropriate

See: [Back-formation](#)

Annex/annexe/annexation
annex verb We **annexed** the third floor for our laboratories
annexe noun an additional room The microscopes were installed in the **annexe**
annexation noun the process of annexing something **Annexation** of the renovated rooms will begin in January

Anonymisation/pseudonymisation
anonymisation the masking of personal data to make it impossible to attribute information to an individual
removing the link between the data and the individual means
anonymised data can **never be reversed**
pseudonymisation the masking of personal data to make it impossible to attribute information to an individual
replacing an individual's name by a **pseudonym**: the coded information is kept separate and protected.
pseudonymised data **can be reversed** (if the code is revealed)

Another
quantitative determiner refers to an **additional** person or thing of the **same** sort Make **another** saline solution

of a **different** typeTry **another** medium**ALERT** Check that the use of **another** *does not* create **ambiguity**A droplet of sperm suspension was mixed with **another** droplet of medium**ERROR** *Semantics:* ambiguous, it is **unclear** which meaning of **another** is meant so **this could be interpreted as**the sperm suspension was **mixed** with *sperm suspension* [another meaning *of the same sort*]
orthe sperm suspension was **diluted** with *medium* [another meaning *of a different sort*]**CORRECT** [if the **latter** is meant] by**omitting *another***

A droplet of sperm suspension was mixed with a droplet of medium

replacing *another* by *a further* or *a second*A droplet of sperm suspension was mixed with a **further/second** droplet of medium**Another/other***another* used with the **singular** **count nouns** We presume that PRDX2 is **another** important *antioxidant*
partitive constructions I have **another** *item of* news*other* used with the **plural** **count nouns** We presume that PRDX2 and PRDX6 are **other** important *antioxidants*
partitive constructions He provided **other** *samples of* semen**NOTE** quantitative adjectives, general determiners**Another alternative***Pleonasm:* as **alternative** is the other possibility (of two), **another** is *superfluous*: use **alternative****Another important fact it is***Style:* verbosity, can be shortened: replace by **also****NOTE** *Vague phrase:* often used unnecessarily [**omit**]**Answerable to/for***to* a person The student was **answerable to** his supervisor*for* an action The student was **answerable for** his poster errors**Ante-/anti-***ante-* prefix (Latin) before the war (**antebellum**) the flood (**antediluvian**)
noun what is at stake in a dispute They decided to up the **ante** as the deadline approached
anti- prefix (Greek) against, opposed to bacteria (**antibacterial**) micro-organisms (**antibiotics**) viruses (**antiviral**)See: [Prefix list](#)**Anthropogenic/anthropometric/anthropomorphic/anthropomorphism***anthropogenic* adjective originating in human activity, chiefly of environmental pollution**Anthropogenic** environmental changes are blamed for declining sperm quality*anthropometric* adjective relating to the measurements and proportions of the human bodyRecords should include basic **anthropometric** measures such as height and weight*anthropomorphic* adjective relating to or characterised by anthropomorphism, having human characteristicsHis explanations of animal behaviour were in **anthropomorphic** terms*anthropomorphism* noun the attribution of human reasoning behaviour to non-human beings, expressing **human** conceptsSpermatozoa travel into the ampulla **to locate** the cumulus-oocyte complex[**spermatozoa** are **insentient and cannot** purposely locate anything]**NOTE** Tables, Figures, Graphs are **insentient and cannot** display, present or show facts
argue for, confirm, disprove or establish theories
but the **data** or **results presented** in them may provide **evidence** that can be **interpreted** (by a human)
to argue for, confirm, disprove or establish theoriesSee: [Teleology](#)**Anti-**See: [Ante-/anti-, Prefix list](#)**Anticipate/expect***anticipate* to be aware of what may happen and act accordingly We **anticipated** aerosol formation, so placed the mixer in a fume cupboard
to expect, to predict, to regard as probable It was **anticipated** that he would not attend
to look forward to We **anticipate** your submitting manuscripts to our journal
expect to regard as likely or assume as a future event We **expected** the antibody to precipitate the phosphorylated proteinsSee: [Surprising/unanticipated/unexpected](#)**Anti-oxidant/-oxidative***anti-oxidant* noun SOD is an **anti-oxidant***anti-oxidative* adjective SOD is an **anti-oxidative** enzyme

Aneuploidy/euploidy

<i>aneuploidy</i>	the state of a cell or organism having an abnormal number of chromosomes with a parent diploid cell giving rise to one daughter cell being trisomic and one being nullisomic
<i>euploidy</i>	the state of a cell or organism having the normal number of chromosomes with a parent diploid cell giving rise to two daughter cells being diploid

See: [Disjunction/nondisjunction](#), [Ploidy](#)

Anxious/eager

<i>anxious</i>	experiencing worry and unease (implies fear or concern)	He was anxious about his forthcoming presentation at the congress
<i>eager</i>	enthusiastic, full of keen desire	She admires the scientist and is eager to meet him

Any

determiner	one or several things all things or people	Take any instrument/s you need Any student can apply [all students can apply] Not any statistical method is acceptable [some methods are unacceptable]
indefinite pronoun	any one	From these instruments, take any you need

Any/every

<i>any</i>	one or some of a thing or several things for negative contexts	No change in the percentage of normal forms was noted between any treatment group and control
<i>every</i>	each one of two or more objects or people, considered together for positive contexts	Changes in the percentage of normal forms were noted between every treatment group and control

NOTE non-equivalent determiners

Any/some

<i>any</i>	for conditional (subordinate) clauses for negative contexts	If you have read any of his articles, you would know his style I did not find any hydrogen peroxide If there aren't any , he won't find them
	for negative answers for questions	No , I don't have any paperclips Do you have any scissors? [if there is doubt whether or not there are scissors]
<i>some</i>	for main (coordinate) clauses for positive contexts	You have read some of his articles and so know his style She found some hydrogen peroxide If there are some , she'll find them
	for positive answers for questions	Yes , I have some paperclips May I borrow some paperclips? [if there is no doubt there are paper clips]

NOTE non-equivalent determiners

See: [About/some](#)

ALERT Check that **some is not** used with a **negative**

She **did not** find **some** gas cylinders in that cupboard

ERROR **Syntax: some is not** used with a **negative** verb

CORRECT by **replacing some** by **any**

She **did not** find **any** gas cylinders in that cupboard

Any body/anybody

<i>any body</i>	general determiner followed by a noun	refers to no particular body	Any body can be dissected today
<i>anybody</i>	indefinite pronoun	refers to one of several people	Anybody can take part in the discussion

See: [Indefinite third person pronouns](#)

Any is/are

<i>is</i>	when any refers to something singular	With regard to the semen sample for the practical test, any is as good as another
<i>are</i>	when any refers to something plural	With regard to valid methods , any are acceptable

Any... is/are

<i>is</i>	when any refers to something singular	Any semen sample is as good as another for the practical test
<i>are</i>	when any refers to something plural	Any valid methods are acceptable

Any of... is/are

<i>is</i>	when any of refers to one of many count objects	Any of his papers is well-written
<i>are</i>	when any of refers to more than one of many count objects	Any of these answers are acceptable

Any more/anymore

<i>any more</i>	to any further extent, any longer	She refused to listen any more
<i>anymore</i>	confusion with American English	

Any one/anyone

<i>any one</i>	general determiner followed by a noun	refers to one of several objects	It could be due to any one of a number of causes
<i>anyone</i>	indefinite pronoun	refers to one of several people	Anyone is welcome to the seminar

Any one of... is/are

is **any one of** *refers to one* of several **objects** **Any one of** a number of causes *is* possible

Any thing/anything/anything but

<i>any thing</i>	general determiner followed by a noun	refers to one of several objects	You can choose any thing that is on the shelf
<i>anything</i>	indefinite pronoun	refers to one of several objects	She sought anything that would keep the cells alive
<i>anything but</i>	adverbial phrase, definitely not, not at all	used for emphasis	His grant application was anything but sufficient [His grant application was not sufficient]

See: [But that/that](#), [No doubt/question/question but](#)

Any time/anytime

<i>any time</i>	at whatever time	He can come any time
<i>anytime</i>	confusion with American English	

Any time/time

<i>any time</i>	followed by a preposition	I will not spend any time before getting on with the task	
		I will not waste any time in getting on with the task	
		(I will not wait before getting on with it)	[I will do it immediately]
<i>time</i>	followed by no preposition	I will not spend time getting on with the task	
		I will not waste time getting on with the task	
		(It is a waste of time to do it)	[I will not do it at all]

Any way/anyway

<i>any way</i>	general determiner followed by a noun	referring to a manner	You can do it in any way you like, as long as it gets done
<i>anyway</i>	adverb	confirming a point just mentioned	I don't care what he says, I am going to do it anyway

Anybody (and subsequent gender)

indefinite third person pronoun		
when the sex of the person is male	use he, his	Anybody is welcome to join provided that he pays his subscription
when the sex of the person is female	use she, her	Anybody is welcome to join provided that she pays her subscription
when the sex of the person is unknown or unclear	use they, their	Anybody is welcome to join provided that they pay their subscription

Anybody is/are

is **anybody refers to one** of several people **Anybody is** welcome to join

Any more

See: [Any more/any more](#)

Anyone (and subsequent gender)

indefinite third person pronoun		
when the sex of the person is male	use he, his	Anyone is welcome to join provided that he pays his subscription
when the sex of the person is female	use she, her	Anyone is welcome to join provided that she pays her subscription
when the sex of the person is unknown or unclear	use they, their	Anyone is welcome to join provided that they pay their subscription

See: [Any one/anyone](#), [Indefinite third person pronouns](#)

Anyone is/are

is **anyone refers to one** of several people **Anyone has** the right to apply for membership

Anyone/someone

<i>anyone</i>	indefinite pronoun	one of a specified group of people	Please offer your seat to anyone in need
<i>someone</i>	indefinite pronoun	one of an unspecified group of people	At the end of the lecture someone should tidy the room

Anyone who

the one who, whoever **Anyone** who applies for this course must be prepared for an intellectual challenge

Anything

indefinite third person pronoun

See: [Any thing/anything/anything but](#)

Anything is/are

is **anything refers to one** of several objects At this stage, **anything is** better than nothing

Anytime

See: [Any time/anytime](#)

Anyway

See: [Any way/anyway](#)

Apart from/except for/other than

<i>apart from</i>	adverbial phrase	as well as, in addition to	Apart from performing his research work, he is the chief editor of a journal
<i>except for</i>	adverbial phrase	with the exception of	We have no really expensive equipment, except for the flow cytometer
<i>other than</i>	adjectival phrase	apart from, except for	There is no good microscope here, other than that in the culture room

ALERT Check that **other than** *is not* used **adverbially**

Other than that, I am quite satisfied

ERROR *Syntax*: other than is an **adjectival phrase** used here **adverbially** to describe **that**
CORRECT by using an **adverbial phrase**

Apart from that, I am quite satisfied

Except for that, I am quite satisfied

Apexes/apices

apices the plural of **apex**

Apiece

See: [A piece/apiece](#)

Apocrine/holocrine/merocrine (eccrine)

<i>apocrine</i>	secretion by loss of large membrane-bound blebs of apical cytoplasm, which release smaller vesicles of membrane-bound proteins The epididymal principal cells secrete GPI-linked proteins on epididymosomes via apocrine secretion		
<i>holocrine</i>	secretion by disintegration of the entire secretory cell, released as part of the secretion The sebaceous glands produce holocrine secretions		
<i>merocrine (eccrine)</i>	secretion by fusion of cytoplasmic vesicles with the apical plasma membrane, and release of their contents via exocytosis Epididymal proteins with a signal sequence are released from epididymal cells by merocrine secretion		

See: [Endocytosis/exocytosis](#)

Apotheosis/epitome

<i>apotheosis</i>	the highest point in the development of something, a culmination	Receiving the Brian Setchell award was the apotheosis of his career
<i>epitome</i>	a perfect example of a particular quality or type	His manuscripts were always the epitome of clear and lucid writing

Appear

to become visible, to come into sight	The FITC signal appeared when the filter was changed
to seem, to give the impression	He appears to be a hard-working student

NOTE the use of **appear** implies a **lack of confidence**, **hesitation**, avoiding a **bold statement** that invites **scepticism** about the results

NOTE *Overused word*: often used unnecessarily **[omit]**

See: [Appear/may](#)

ALERT Check that **appears** is necessary

It **appears** to have been reported that sperm motility is inhibited by α -chlorohydrin

ERROR *Semantics*: either **it has been** reported or **it has not**

CORRECT [if it **has** been reported] by

omitting appears

It has been reported that sperm motility is inhibited by α -chlorohydrin

CORRECT [if it is **not certain** that motility was inhibited] by

moving appears after *sperm motility*

It has been reported that sperm motility **appears** to be inhibited by α -chlorohydrin

It **appears** that sperm motility is inhibited by α -chlorohydrin

ERROR *Semantics*: a well-performed experiment will show either that **it is** or **is not** inhibited

CORRECT by

omitting appears

Sperm motility **is** inhibited by α -chlorohydrin

being definite

The evidence **demonstrates** that sperm motility **is** inhibited by α -chlorohydrin

Appear/may

<i>appear</i>	intransitive verb	It appears that his plane will be late
<i>may</i>	auxiliary verb expressing possibility	He may be able to attend the lecture

ALERT Check that **appears** *is not* used with words **implying uncertainty**

It **appears that** the rate of sperm detection, as sample numbers increase, **may approach** an asymptotic limit

ERROR *Tautology*: as both **appears** and **may** imply **uncertainty**, one word is **superfluous**

CORRECT by using **one or the other**, not both, by

omitting it appears that

The rate of sperm detection, as sample numbers increase, **may approach** an asymptotic limit

replacing may approach by **approaches**

It **appears that** the rate of sperm detection, as sample numbers increase, **approaches** an asymptotic limit

Appendices/appendixes

<i>appendices</i>	plural of the literary appendix	subsidiary matter at the end of a book	All the documents contained tabular appendices at the end
<i>appendixes</i>	plural of an anatomical organ	the appendix	Inflammation of their appendixes led to appendicitis

Applicate

See: [Abscissa/applicate/ordinate](#), [Back-formation](#)

Application of/applying

<i>application of</i>	prepositional phrase	defines a verb	The results were obtained by application of the given formula
<i>applying</i>	as a gerund (verbal noun)	defines a verb	The results were obtained by applying the given formula
			Applying the modified formula improved the predictive power of the test

See: [Gerunds/participles](#)

ALERT Check that **application** of is necessary

The membrane was removed by the **application of** detergent

STYLE *Word usage*: verbosity, can be shortened

CORRECT by **omitting the application of**
The membrane was removed **by** detergent

Applying

<i>gerund</i>	introducing a noun phrase as subject of the verb	Applying the Woodward-Hoffman rules leads to the structure shown in Fig. 1
<i>participle</i>	describing a noun or pronoun as subject of the verb	Applying the Woodward-Hoffman rules, we found the structure to be that in Fig. 1

See: [Application of/applying](#)

ALERT Check that **applying** has a relevant noun to qualify

Applying the Woodward-Hoffman rules, the most likely **structure** was found to be X
ERROR *Semantics*: **applying** is a participle (verbal adjective) and **structure** is the nearest noun it can complement
so this implies that the **structure** applied the rules

CORRECT [if the **application** was used to determine the structure] by
changing the **passive** to the **active voice** and **inserting a human agent**

Applying the Woodward-Hoffman rules, **I** found the most likely structure to be X

changing the **participle** to a **gerund** by **inserting** an active **verb**

Applying the Woodward-Hoffman rules **led to** X as the most likely structure

using a **prepositional phrase** and **inserting** an active **verb**

Application of the Woodward-Hoffman rules **led to** X as the most likely structure

Appraise/apprise

<i>appraise</i>	to assess the value or quality of, to form a judgement about	We need to appraise our surgical techniques
<i>apprise</i>	to inform, to tell someone	We apprised the technician of the change in surgical technique

Appreciate/realise/understand

<i>appreciate</i>	to be grateful for something to esteem highly, be sensitive to, to recognise the full worth of to raise or rise in value or price to understand a situation fully, to grasp the full implications of	I should appreciate your reading the enclosed manuscript He appreciated the efforts she had put in the translation The Hong Kong dollar appreciated against the Euro He appreciated the pressure the technician was under [implies more feeling than does realise or understand]
<i>realise</i>	to achieve something desired or anticipated, to fulfil to cause to happen to give actual or physical form to to understand clearly, to become fully aware of a fact	Only now is she realising her potential His worst fears have not been realised The Semen Handbook has been beautifully realised After seeing immediate sperm hyperactivation, he realised his error [implies less feeling than does appreciate]
<i>understand</i>	to perceive the intended meaning of words, a language, a speaker to perceive the significance, explanation or cause of	I understood everything he said [implies less feeling than does appreciate] He understood why they were so unwilling to present their results

Apprehend/comprehend

<i>apprehend</i>	to arrest someone for a crime	The cleaner was apprehended for stealing the secretaries' typewriters
<i>comprehend</i>	to grasp mentally, to understand	After his explanation I finally comprehended what his theory meant

Apposite/appropriate/germane/pertinent/relevant

<i>apposite</i>	adjective	suitable in the circumstances, apt, appropriate	This is an apposite quotation
<i>appropriate</i>	adjective	suitable in the circumstances, apt, apposite	This is not the appropriate time to discuss this
	verb	to take something for one's own use (without permission)	Yesterday I appropriated the other lab's candles
<i>germane</i>	adjective	applicable to the discussion, appropriate, pertinent, relevant	This topic is not germane to the theme
<i>pertinent</i>	adjective	applicable to the discussion, appropriate, germane, relevant	This is a pertinent comment to add
<i>relevant</i>	adjective	applicable to the discussion, appropriate, germane, pertinent	She has the relevant qualifications for the job

See: [Apt/likely](#), [Reasonable/relevant](#), [Relevance/relevancy/relevant](#)

Appropriate

See: [Apposite/appropriate/germane/pertinent/relevant](#)

Approximate

about, rough, very close

Approximately/approximately equal to

approximately about \sim There was a ~ 2 -fold increase in motility
approximately equal to roughly \approx $1.96 \text{ SD} \approx 2 \text{ SD}$

See: [About/some](#), [Accurate/precise](#), [Circa](#), [Definite/indefinite/no article](#), [Equal/equals/equals sign](#), [Mathematical comparators/operators](#), [Rounding of numbers](#)

ALERT Check that **approximately** does not relate to something exact

The length of the vas deferens on the vasectomised side was **approximately** $3.5 \pm 0.1 \text{ cm}$

ERROR *Oxymoron*: **approximately** means **about** but 3.5 ± 0.1 is an **exact** measurement

CORRECT by

omitting approximately

The length of the vas deferens on the vasectomised side was $3.5 \pm 0.1 \text{ cm}$

using a rounded figure

The length of the vas deferens on the vasectomised side was **approximately 4 cm**

Apropos/apropos of (French)

apropos concerning, relating to, with reference to **Apropos** his hypothesis, he had failed to consider membrane intactness
apropos of as **apropos** means **relating to**, it **needs no** additional **preposition (of)** after it

See: [Plain English](#)

Apt/likely

apt adjective appropriate in the circumstances
 for general probabilities, apposite, appropriate The monkeys are **apt** to get aggressive when given androgens

likely adjective such as well might happen or be true, probable
 for specific probabilities

adverb probably preceded by a **submodifier** more
 most
 very

It is **likely** that increased motility reflects raised intracellular cAMP
 The discussion is mere speculation on the **likely** effects of treatment
 His retirement made it **more likely** that we would leave
 We shall **most likely** go to the next Epididymis meeting
 The new appointee was **very likely** to get the top job

See: [Inapt/inapt](#)

Aptitude/potential

aptitude a natural ability to do something
 [only people can have **aptitude**] The new student had an **aptitude** for this fine surgical technique

potential having the capacity to develop into something This technique has the **potential** to reinvigorate semen analysis research

ALERT Check that **aptitude** is not applied to insentient objects

Males could be screened at the onset of semen production and subsequently selected or culled depending on their reproductive **aptitude**

ERROR *Syntax*: **reproduction** is **insentient** and **cannot** have an aptitude for anything

CORRECT by **replacing aptitude** by **potential**

Males could be screened at the onset of semen production and subsequently selected or culled depending on their reproductive **potential**

ALERT Check that **potential** *is not* used with words **implying uncertainty**

These glycoproteins **could become potential** markers of sperm maturation

ERROR *Tautology*: as both **potential** and **could be** imply the notion of **uncertainty**, one term is **superfluous**

CORRECT by **using one or the other**, not both, by

omitting potential

These glycoproteins **could become** markers of sperm maturation

replacing could become by **are**

These glycoproteins **are potential** markers of sperm maturation

Aq. dest. (Latin)

abbreviation of **aqua destillata** distilled water used **only** if the water was purified by **distillation**

See: [Purified water](#)

Are of the same opinion

Style: verbosity, can be shortened: replace by **agree**

Are such as to

Style: verbosity, can be shortened: replace by **can**

Argue/debate

argue verb to exchange diverging views typically angrily They **argued** whether cytoplasmic droplet loss was a cause or a consequence of infertility
 to give reasons supporting an idea He **argued** that flagellar angulation showed droplet retention was the cause not consequence

[only people can argue]			
debate	verb	to argue about a topic in a formal manner with opposing arguments	We debated the new rules on the use of lasers
	noun	the topic of a debate what is debated	We held a debate on the new rules on the use of lasers

ALERT Check that **argues** relates to someone **capable of arguing**

Table 1 **argues** that capacitation is bicarbonate-dependent
 ERROR *Syntax*: a **Table** is **insentient and cannot** provide arguments
 CORRECT by **considering** that the **results** in the Table **may provide evidence** that may be interpreted to argue something
 The **results** in Table 1 **provide evidence that argues** that capacitation is bicarbonate-dependent
 The **results** in Table 1 **argue** that capacitation is bicarbonate-dependent

ALERT Check sentence structure when using **debated**

I **debated** my Professor
 ERROR *Syntax*: only a **subject**, **not** an **adversary**, can be debated
 CORRECT by
 inserting **with** before my Professor
 I debated **with** my Professor
 relating **the topic** that was debated
 I debated **the merits** of using non-parametric statistics

Argument/argument

argument	an exchange of diverging or opposite views, typically a heated or angry one a reason or set of reasons given in support of an idea, action or theory	I've had an argument with my supervisor There is an argument for submitting a formal appeal
----------	---	--

See: [Deductive/inductive reasoning](#)

Arithmetic/arithmetical

arithmetic	noun	the branch of mathematics dealing with the properties of numbers the use of numbers in counting and calculation	First we study the laws of arithmetic Arithmetic had never been her strong point' Check your arithmetic formulae
arithmetical	adjective	relating to arithmetic, arithmetical	Check your arithmetical calculations

Arm/arms

arm	literal	anatomy	the upper limb	He is an arm dealer [one who buys and sells prosthetic limbs]
	figurative	relating to arms	arm of a chair (for resting the arm) arm of clothing (worn over the arms)	
arms	plural noun	small weapons		He is an arms dealer [one who buys and sells weapons]
	verb	to provide with weapons		The soldiers were armed

Around

See: [About/some](#)

Arriving

participle (verbal adjective) and **gerund** (verbal noun)
 as participle which can define a **noun**, **pronoun** or **noun phrase** I saw the **professor arriving** by bike
 as gerund which can define a **verb** **Arriving** by bike **is** healthy and reduces city pollution

See: [Gerunds/participles](#)

ALERT Check whether **arriving** is used as a gerund or a participle

There is no chance of the grant referees **arriving** on time
 ERROR *Semantics*: this implies that there is **no chance of the referees**
 CORRECT [if there is no chance of **their timely arrival**] by
 using the **genitive** with a **gerund**
 There is no chance of the **grant referees' arriving** on time

Arrogate

See: [Abnegate/abrogate/arrogate](#)

Artefact/artifact

artefact	a man-made object, typically one of cultural or historical interest something not naturally present, caused by a procedures	She did research on the artefacts of coastal tribes Sperm head swelling is an artefact of rehydration in hypotonic media
artifact	confusion with American English	

Articles

See: [Definite/indefinite/no article](#), [Determiners](#)

As

adverb	describing adjectives the first as in as... as expressions describing adverbs	Non-dissolvable suture threads are as strong but cheaper I came as quickly as I could
--------	--	--

	quantitative determiners	Take as many as you need Practise as much as you like
conjunction	joining two clauses the second as in as... as expressions describing adverbs quantitative determiners	I came as quickly as I could Take as many as you need Practise as much as you like I must stop now as I have to go out Gently swirl the solution as it thaws Small as it was, it contained all the necessary equipment He worked fast as usual
preposition	because, since during the time that even though to indicate how something happens followed by a noun or pronoun during the time of being referring to the function that someone has	She had often been ill as a child He got the job as a head scientist We, as scientists , know extra-ordinary claims need extra-ordinary evidence
relative pronoun	part of the such as phrase of a kind that, for example, including	In such countries as France, motorways are toll-roads [in countries such as France...]

See: [As... a](#), [As... as](#), [As/like](#), [Like/such as](#), [Such as/that](#)

ALERT Check that it is clear what **as** means

She has friends **as** you
ERROR *Semantics*: ambiguous, **it is unclear** which meaning of **as** is meant
so **this could be interpreted as**

she has friends **in the same way that** you have friends [as used as a **conjunction**]
or

she has friends **who are similar to** you [as used as a **relative pronoun**]

CORRECT [if the **former** is meant] by
repeating the verb

She has friends as you **have**

CORRECT [if the **latter** is meant] by
replacing as by such as

She has friends **such as** you

For IUI, spermatozoa were selected in the same way **as** the sperm selection test
ERROR *Semantics*: ambiguous, **it is unclear** which meaning of **as** is meant
so **this could be interpreted as** the

sperm selection test was itself selected [as acting as **conjunction**; two clauses, **two** subjects (spermatozoa, test)]
or

sperm selection methods for IUI and the test were the same [as acting as **conjunction**; two clauses, **one** subject (spermatozoa)]

CORRECT [if the **latter** is the case] by
repeating the subject by inserting they were for

For IUI, spermatozoa were selected in the same way **as they were for** the sperm selection test

inserting a preposition

For IUI, spermatozoa were selected in the same way **as for** the sperm selection test

ALERT Check that **as** is close to the noun or pronoun it describes

As an epididymologist, one would expect the student to examine the osmolality first
ERROR *Semantics*: discourteous, the reader **expects** epididymologist to refer to the following pronoun (**one**, the **writer**)
and **then realises otherwise** [the **student** is an epididymologist]

CORRECT by

moving the adjectival phrase closer to **student**

One would have expected **the student, as** an epididymologist, to examine the osmolality first

moving student closer to the **adjectival phrase** and **using the passive**

As an epididymologist, **the student should have** examined the osmolality first

As... a

when **as** modifies an **adjective** in the same noun phrase as the **indefinite article**
the determiner comes second He was **as rude a** student as I have ever met

See: [Adjectives](#), [Determiners](#)

As... as

the **first as** is an **adverb** describing a **verb** I **came as** quickly as I could
the **second as** is a **conjunction** joining two grammatical equivalents (here clauses) (I came as quickly) **as** (I could)
the pronoun following the **second as** is in the **same case**

as the **first term** of the comparison nominative **She is as** well-qualified **as he** [as **he is**]
objective She employed **someone as** well-qualified **as him**

See: [As far as... is concerned](#), [As far as/as for](#), [As far as/as long as/insofar as](#), [As much as](#), [As well/as well as](#)

ALERT Check the case of pronouns when using **as... as**

She works as well as me

ERROR *Syntax*: the **cases do not match**: the **subject** of a sentence is **nominative** (**she**), but **me** is **objective** (the object)

CORRECT by

replacing **me** by **I**

She works as well as I

replacing **me** by **I do**

She works as well as I do

She employed someone as dexterous as I

ERROR *Syntax*: the **cases do not match**: the **object** of a sentence is **objective**, but **I** is **nominative** (the subject)

CORRECT by replacing **I** by **me**

She employed someone as dexterous as me

As... if not... than

compares two comparisons The results are **as** good as, **if not** better **than**, those obtained with the old method

ALERT Check for missing **prepositions** when using **as... if not... than**

The conditions may be **as** bad, **if not** worse, **than** those before the renovation

ERROR *Syntax*: the comparative **worse** needs the preposition **than**, but **as bad** requires **as**

CORRECT by inserting **as** and moving the **comma** after **than**

The conditions may be **as** bad **as**, **if not** worse **than**, those before the renovation

As... or

compares two comparisons The treated spermatozoa are **as** large as, **or** larger than, those of the controls

ALERT Check for missing **prepositions** when using **as... or**

The treated spermatozoa are **as** large, **or** larger, than those of the controls

ERROR *Syntax*: the comparative **larger** needs the preposition **than**, but **as large** requires **as**

CORRECT by inserting **as** and moving the **comma**

The treated spermatozoa are **as** large **as**, **or** larger than, those of the controls

As... so

Tautology: as each conjunction introduces a **conditional clause** resolved in the main clause **without a conjunction**, one word is **superfluous**: use **one or the other**, not both

ALERT Check the number of **conjunctions** when using **as... so**

As its weight was restored in the castrate with androgens, **so** the epididymis is androgen-dependent

ERROR *Syntax*: as is a **conjunction**, it **needs no** additional **conjunction** (**so**) in the sentence

CORRECT by using **one or the other**, not both, by

omitting **so**

As its weight was restored in the castrate with androgens, the epididymis is androgen-dependent

omitting **as**

Its weight was restored in the castrate with androgens, **so** the epididymis is androgen-dependent

As/like

as	conjunction	joins phrases and clauses	I'm not a fool as you; I spend my time wisely (I'm not a fool as you [are]; I spend my time wisely) [you spend your time unwisely]
			I'm not a fool; as you, I spend my time wisely (I'm not a fool; as you [do], I spend my time wisely) [you spend your time wisely]
like	as a preposition	defines nouns and pronouns	We, as scientists, believe in climate change [we are scientists] Peter retired early, as John did [John retired early] John thinks as a scientist [John thinks as a scientist thinks]
			I'm not a fool like you; I spend my time wisely (likens you to a fool ; I am unlike you) [you spend your time unwisely] I'm not a fool; like you I spend my time wisely (likens me to you ; I am like you) [you spend your time wisely] We, like scientists, believe in climate change (likens groups of people ; we are not scientists) [we believe what scientists do] Like John, Peter retired early (likens John to Peter) [John retired early] John is beginning to think like a scientist (likens John to a scientist) [John thinks as a scientist thinks]

See: [Like](#)

As/so far as it goes

used to qualify praise of something, bearing in mind its limitations

The review is useful **as far as it goes**
The review is useful **so far as it goes**

NOTE equivalent adverbial phrases

As/so long as

<i>as long as</i>	in positive contexts	X is as long as Y
<i>so long as</i>	in negative contexts	X is not so long as Y

NOTE non-equivalent discontinuous correlative conjunctions

See: [As far as/as long as/insofar as](#), [Negative/positive contexts](#)

As/when... by

<i>as... by</i>	generally applicable	The structures appeared the same as assessed by light microscopy
<i>when... by</i>	limited to certain conditions	The structures were clearly different when assessed by electron microscopy [they may appear similar when assessed by another method]

ALERT Check that the use of **when** conveys the **intended meaning**

Immuno-reactivity was localized to the acrosome **when** assessed **by** transmission electron-microscopy

ERROR *Semantics*: ambiguous, it is unclear if **more than one method** was used and if the immuno-reactivity **was not revealed** by another

CORRECT [if **two methods** were used with different results] by
inserting only

Immuno-reactivity was localized to the acrosome **only when** assessed **by** transmission electron-microscopy

CORRECT [if only **one method** was used] by

replacing when by as

Immuno-reactivity was localized to the acrosome **as** assessed **by** transmission electron-microscopy

As/when compared with

Style: **as/when** is **unnecessary**, **compared with** alone is **sufficient**

As a consequence of

Style: verbosity, can be shortened: replace by **because**

As a matter of fact

Style: verbosity, can be shortened: replace by **in fact** [or omit]

As a result

See: [After/following](#), [And so/hence/therefore](#), [And so/so/so that](#), [Because of/caused by](#), [Consequent/subsequent](#), [Hence/thence/whence](#), [So/therefore](#), [Thereby/therefore/thus](#)

ALERT Check the meaning when using **as a result**

As a result of the LC-MS/MS analyses, it is possible that processing of basigin yields these different bands

ERROR *Semantics*: the **possibility** of basigin processing **is not a consequence** of the analysis but a **conclusion** from the analytical results

CORRECT by **replacing as a result of by from** and **inserting to conclude**

From the LC-MS/MS analyses, it is possible **to conclude** that processing of basigin molecule yields these different bands.

As already stated

Style: verbosity [omit]

As and when

Style: verbosity, can be shortened: use either **as** or **when** alone, not both

As can be seen from

Style: verbosity, can be shortened: **avoid**

As compared with

Style: **as** is **unnecessary**, **compared with** alone is **sufficient**

As far as/as for

<i>as far as</i>	conjunctive phrase	to the extent that	As far as I know this work has not been done before
<i>as for</i>	prepositional phrase	with regard to, as was done for	The epididymal samples were frozen at -20°C as for testicular samples

ALERT Check that **as far as** joins grammatical equivalents

As far as next season, it is too early to make forecasts

ERROR *Syntax*: **as far as** is a conjunction, which **should link two grammatical equivalents**, but here links a **phrase** with a **clause**

CORRECT by

inserting a verb

As far as next season **goes**, it is too early to make forecasts [as far as clause, clause]

replacing as far as by as for

As for next season, it is too early to make forecasts

ALERT Check that the use of **as for** does not confuse

As for the TUNEL assay, coded frozen semen samples were shipped on dry ice
 ERROR *Semantics: ambiguous, it is unclear whether **as for** is used as a **preposition** or is **part** of an **adjectival phrase** so **this could be interpreted as***
 in the case of the TUNEL assay [coded frozen semen samples were **only** used for TUNEL]
 or
 as was the case for another (the TUNEL) procedure [coded frozen semen samples were **also** used in this assay]
 CORRECT [in the **former** is meant] by **omitting as**
 For the TUNEL assay, coded frozen semen samples were shipped on dry ice
 CORRECT [if the **latter** is meant] by **replacing as for by as was done for or as was the case for**
 As was done for/as was the case for the TUNEL assay, coded frozen semen samples were shipped on dry ice

As far as/as long as/insofar as

<i>as far as</i>	to the extent that, insofar as	As far as I know, he will not come this afternoon As far as the theory goes, the results seem promising As long as it works, I shall use it He liked new software, as long as it was easy to install Insofar as it was easy to install, he liked the new software
<i>as long as</i>	during the time that, for the period that only if, provided that	
<i>insofar as</i>	to the extent that, as far as	

NOTE discontinuous correlative conjunctive phrases

See: [As far as/as for](#), [As/so long as](#)

As far as... is concerned

*Style: verbosity, can be shortened: replace by **with regard to**...*

As follows:—

Style: replace :— by :

As for these experiments, they are

*Style: verbosity, can be shortened: replace by **these experiments are***

See: [As far as/as for](#)

As how

*Style: **as** is **unnecessary**, **how** alone is **sufficient***

As if/like

<i>as if</i>	conjunctive phrase	followed by a clause	It feels as if it is turning septic It looks as if the cells are undergoing apoptosis It seems as if he was going to leave anyway
<i>like</i>	as a preposition	followed by a noun pronoun	It looks like apoptosis It looks like her

See: [As if/though](#), [Like](#), [Like/such as](#), [Look/look as if/look like](#)

ALERT Check that **like** *is not* used as a **conjunction**

It **sounds like** the centrifuge **needs** to be repaired

ERROR *Syntax: **like** is used here as a **conjunction** joining two clauses*

CORRECT by **replacing like by as if or as though**

It sounds **as if/as though** the centrifuge needs repairing

He has suggested some good projects, but **it's** not **like** we **have** any commitment to fund them

ERROR *Syntax: **like** is used here as a **conjunction** joining two clauses*

CORRECT by

replacing like by as if or as though

He has suggested some good projects, but it's not **as if/as though** we have any commitment to fund them

replacing like by that

He has suggested some good projects, but it's not **that** we have any commitment to fund them

ALERT Check that **like** does not govern an adverb or adverbial phrase

He managed it this time, **like** before

ERROR *Syntax: **like** is used here as a **conjunction** joining two clauses*

CORRECT by **replacing like by a as**

He managed it this time, **as** before (as [he managed it] before)

ALERT Check the **meaning** when **like** is used

John treated his student **like** a friend

ERROR *Semantics: ambiguous, it is unclear whether **like** is used as an **adjective** or a **preposition***

so **this could be interpreted as**

John treated his **student** in the same way that John would treat a **friend** [like is an **adjective**] (compares **student** with **friend**)

or

John treated his friend in the same way that a **student** would treat his friend [like is a **preposition**](gives the **manner of treatment**)
 CORRECT [if the **former** is meant] by

replacing **like** by **as he would**

John treated his student **as he would** a friend (as he would [treat] a friend)

replacing **like** by **as if he were** or **as though he were**

John treated his student **as if he were/as though he were** a friend

CORRECT [if the **latter** is meant] by

replacing **like** by **as** and inserting a **verb**

John treated his student **as** a friend **would** (as a friend would [treat his student])

As *if/though*

equivalent compound conjunctions as would be the case if The mouse acts **as if** it is sick
 The animal acts **as though** it is sick

As *is the case when*

Style: verbosity, can be shortened: replace by **as happens when**

As *judged by*

See: [Judged by/from](#)

As *many/much*

as many the same number He changed the conclusion for the third time in **as many** weeks
as much the same She would do **as much** for me

As *many as/than*

as many as used before a **number** to indicate large or surprising it is

As *many/much as*

as many as used before a **number** to indicate how large or surprising it is
 with count nouns **As many as 200 students** attended the lecture [fewer were expected]
as much as used before an **amount** to indicate how large or surprising it is
 with count nouns considered **as one unit** **As much as 40 ml fluid** was obtained from the cyst [less was expected]
 with measured quantities In **as much as 40% of** couples the male is infertile [less was expected]

As *mentioned above/before*

Style: verbosity [omit]

As *much as*

adverbial phrase even though **As much as** I had enjoyed the conference, it was good to be back home
 as... as comparisons the 1st **as** is an **adverb** describing a **verb** He **teaches** me **as much as** my sister
 the 2nd **as** is a **conjunction** joining two **clauses** (He teaches me as much) **as** (my sister teaches me)

See: [As... as](#), [Ellipsis](#), [Much as](#), [Repetition](#), [Than](#)

ALERT Check the meaning when using **as much as**

He teaches me **as much as** my sister

ERROR *Semantics*: ambiguous, it is unclear whether **sister** is the **subject** or **object** of the verb to teach
 so **this could be interpreted as**

he teaches **me** as much as **my sister** teaches **me** [sister used as the **subject** of teach]

or

he teaches **me** as much as **he** teaches **my sister** [sister used as the **object** of teach]

CORRECT [if the **former** is meant] by

inserting a **verb after** the **subject**

He teaches me as much as **my sister does**

CORRECT [if the **latter** is meant] by

inserting a **verb before** the **object**

He teaches me as much as he **does my sister**

As *of now*

from now on

Style: verbosity, can be shortened: replace by **now**

As *of this date*

Style: verbosity, can be shortened: replace by **from today**

As *it was mentioned above*

Style: verbosity, can be shortened: replace by **as mentioned above** [or omit]

As *per/per*

as per in accordance with The assay was done **as per** the manufacturer's instructions
per for each, by means of Grade a spermatozoa travel at 25 μm **per** second
unnecessary for simple rates use **a or an instead of per**
 300 mg **a** day 5 ml **an** hour

useful for more complex rates use **a** or **an** *in addition to* **per**
 300 mg **per** kg a day 50,000 **per** ml an hour

See: [Concentration/dosage/dose](#)

As regards/as regards to

as regards **As regards** publication costs, the lower rate will be charged
 as regards to since **as regards** contains a **preposition (as)**, it **needs no** additional **preposition (to)** after it

See: [Apropos/apropos of](#), [Concerning](#), [In regard to/respect of](#), [With reference/regard/respect to](#)

As regards... , it is

Style: verbosity, can be shortened: replace by ... is

As such/such as

as such	in the exact sense of the word often with the negative	The procedure involves viruses and as such needs to be done aseptically There is no travel grant as such , but we provide a daily allowance
such as	for example, including of a kind that, like one that	We added steroid supplements such as testosterone He wore a white coat such as doctors wear

See: [Like/such as](#)

As that

Style: **as** is **unnecessary**, **that** alone is **sufficient**

As to

prepositional phrase in relation to, concerning Decisions were made **as to** which patients should receive treatment

As to how

Style: **as to** is **unnecessary**, **how** alone is **sufficient**

As to what

Style: **as to** is **unnecessary**, **what** alone is **sufficient**

As to when

Style: **as to** is **unnecessary**, **when** alone is **sufficient**

As to whether

Style: **as to** is **unnecessary**, **whether** alone is **sufficient**

As to who

Style: **as to** is **unnecessary**, **who** alone is **sufficient**

As to why

Style: **as to** is **unnecessary**, **why** alone is **sufficient**

As was not the case/not as/unlike

as was not the case	prepositional phrase	different from	
	may begin a sentence	defines a verb	As was not the case at the last session, he kept to time
not as	conjunctive phrase	different from	
	does not begin sentences, joins equivalents		He did it well this time, not as formerly (...not as [he did it] formerly)
unlike	adjective	different from	
	defines a noun, pronoun or noun phrase		But unlike at previous conferences , this time he kept to time It is unlike any droplet I have seen before Unlike me , he retired early
	preposition	in a different way from	He thinks unlike a scientist
	is not a conjunction		

ALERT Check that **not as** **does not** begin a sentence

Not as in their experiments, the sperm velocity here was increased

STYLE *Word usage:* **not as** **does not** begin a sentence

CHANGE by

inverting the sentence

The sperm velocity here was increased, **not as** in their experiments

replacing not as by as was not the case

As was not the case in their experiments, the sperm velocity here was increased

Not as last time, he did it well this time

STYLE *Word usage:* **not as** **does not** begin a sentence

CHANGE by

inverting the sentence

He did it well this time, **not as** last time

replacing not as by unlike

Unlike last time, he did it well this time

ALERT Check that **unlike** is *not* used with a **preposition**

But **unlike** at previous sessions of the conference, this time he did not speak for too long

ERROR *Syntax*: as **unlike** is used here as a **preposition**, it **needs no** additional **preposition** (**at**) after it

CORRECT by

omitting at

But **unlike** previous sessions of the conference, this time he did not speak for too long

replacing but unlike by as was not the case

As was not the case at previous sessions of the conference, this time he did not speak for too long

ALERT Check that **unlike** joins grammatical equivalents

Unlike other species, human spermatozoa are characterised by incomplete replacement of histones

ERROR *Semantics*: here **unlike** **compares** human **spermatozoa** with other **species**

CORRECT [to compare spermatozoa of different species] by

replacing unlike by as is not the case in

As is not the case in other species, human spermatozoa are characterised by incomplete replacement of histones

inserting spermatozoa from

Unlike spermatozoa from other species, human spermatozoa are characterised by incomplete replacement of histones

inserting spermatozoa from and **replacing human spermatozoa by those from man**

Unlike spermatozoa from other species, **those from man** are characterised by incomplete replacement of histones

Unlike those from other species, **spermatozoa from man** are characterised by incomplete replacement of histones

ALERT Check that **unlike** does not govern an adverb or adverbial phrase

He did it well this time, **unlike** formerly

ERROR *Syntax*: **unlike** does not govern adverbs

CORRECT by

replacing formerly by last time

He did it well this time, **unlike last time**

replacing unlike by not as

He did it well this time, **not as** formerly

ALERT Check that it is clear what **unlike** defines

Unlike oocyte cryopreservation, sperm cryopreservation is a simple and effective way of preserving fertility in male cancer patients undergoing gonadotoxic treatment

ERROR *Semantics*: this implies that **oocyte cryopreservation** is not a simple way of preserving **male fertility**

CORRECT by

omitting male

Unlike oocyte cryopreservation, sperm cryopreservation is a simple and effective way of preserving fertility in cancer patients undergoing gonadotoxic treatment

inserting for female cancer patients

Unlike oocyte cryopreservation **for female cancer patients**, sperm cryopreservation is a simple and effective way of preserving fertility in male cancer patients undergoing gonadotoxic treatment

Unlike that of the other PRDXs, the expression of PRDX6 was limited to Sertoli cell cytoplasm

ERROR *Semantics*: ambiguous, **it is unclear** what **unlike that** defines, the expression, its limitation or the cells so **this could be interpreted as**

(1) expression of the other PRDXs was **not limited** to the **cytoplasm** of **Sertoli cells**

or

(2) expression of the other PRDXs was **not limited** to **cytoplasm**

or

(3) expression of the other PRDXs was **not limited** to **Sertoli cells**

which means that

(4) the other PRDXs were expressed in **Sertoli cell cytoplasm** as well as in **other Sertoli cell components**

or

(5) the other PRDXs were expressed in the **cytoplasm of Sertoli cells** as well as in **the cytoplasm of other cells**

or

(6) the other PRDXs were expressed in **Sertoli cells** as well as in **other cells**

CORRECT [if the 4th is meant] by

emphasising the other PRDX expression in the **entire Sertoli cell**

Unlike the expression of other PRDXs in the **entire Sertoli cell**, that of PRDX6 was limited to Sertoli cell cytoplasm

CORRECT [if the 5th is meant] by

emphasising the other PRDX expression in the **cytoplasm of Sertoli and other cells**

Unlike the expression of other PRDXs in the **cytoplasm of Sertoli and other cells**, that of PRDX6 was limited to Sertoli cell cytoplasm

CORRECT [if the 6th is meant] by

emphasising the other PRDX expression in **Sertoli and other cells**

Unlike the expression of other PRDXs in **Sertoli and other cells**, that of PRDX6 was limited to Sertoli cell cytoplasm

As we all know

Style: verbosity, unnecessary [**omit**]

As well/as well as

as well

adverbial phrase

in addition, too

The students went **as well**

<i>as well as</i>	subordinating conjunction	with an equally good result and also, and in addition, and not only in addition to	The treated spermatozoa swam as well as the control cells He was knowledgeable as well as a good speaker The scientist, as well as his students, has Wednesday off
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See: [And/as well as](#), [Together with/with](#)

ALERT Check the agreement of verbs when using **as well as**

The nuclear shape, **as well as** the presence and size of its vacuoles, **were** examined
ERROR *Syntax*: **as well as** **does not** introduce the subject of the verb, which is nuclear shape (**singular**)
CORRECT by **using** the **singular**
 The nuclear shape, as well as the presence and size of its vacuoles, **was** examined

ALERT Check for ambiguity when using **as well as**

Silvia does cell culture **as well as** Steffi
ERROR *Semantics*: ambiguous, **it is unclear** which meaning of **as well as** is meant
 so **this could be interpreted as**
 Silvia and Steffi **each** cultures cells [as well as used as a **prepositional phrase**]
 or
 Silvia and Steffi **are equally good at** culturing cells [as well as used as a **subordinating conjunction**]
CORRECT [if the **former** is meant] by
replacing **as well as** by **as does**
 Silvia does cell culture **as does** Steffi
rewriting the sentence
Both Silvia and Steffi culture cells
CORRECT [if the **latter** is meant] by
inserting a verb
 Silvia does cell culture **as well as** Steffi **does**

ALERT Check that it is clear what **as well as** refers to

DNA fragmentation of gametes is associated with fertilisation failure, **as well as** unsuccessful sperm chromatin decondensation
ERROR *Semantics*: ambiguous, as the comma precedes a new phrase, **it is unclear** to what **as well as** refers
 so **this could be interpreted as**
 DNA fragmentation is associated with unsuccessful chromatin decondensation [as well as relating to DNA fragmentation]
 or
 fertilisation failure is associated with unsuccessful chromatin decondensation [as well as relating fertilisation failure]
CORRECT [if the **former** is meant] by
removing the **comma** to indicate joint association
 DNA fragmentation of gametes is associated with fertilization failure **as well as** unsuccessful sperm chromatin decondensation
replacing **as well as** by **both... and** to emphasise joint association
 DNA fragmentation of gametes is associated with **both** fertilization failure **and** unsuccessful sperm chromatin decondensation
CORRECT [if the **latter** is meant] by
replacing **as well as** by **as is**
 DNA fragmentation of gametes is associated with fertilization failure, **as is** unsuccessful sperm chromatin decondensation

ALERT Check the sense when using **as well as** to function as a subordinating conjunction

The drug **decreases** the fertilising capacity of spermatozoa, **as well as** the degradation of paternal DNA
ERROR *Semantics*: ambiguous, as **decreases** applies to the 1st noun (**fertilising capacity**) and there is a **comma**, **it does not** refer to the 2nd noun
it is unclear whether **this should be interpreted as**
 the drug also **decreases** paternal DNA degradation [as well as used a **prepositional phrase**]
 or
 fertilising capacity and DNA degradation are **decreased equally** by the drug [as well as used as a **subordinating conjunction**]
CORRECT [if the **former** is meant] by
replacing **as well as** by **and**
 The drug decreases the fertilising capacity of spermatozoa **and** the degradation of paternal DNA
CORRECT [if the **latter** is meant] by
replacing **as well as** by **as does**
 The drug decreases the fertilising capacity of spermatozoa, **as does** the degradation of paternal DNA
rewriting the sentence and inserting both and and
 The fertilising capacity of spermatozoa is decreased **both** by the drug **and** the degradation of paternal DNA

The number of smokers has increased over the years **as well as** the prevalence of obesity
ERROR *Semantics*: ambiguous, **it is unclear** what **as well as** refers to
 so **this could be interpreted as**
 smoker numbers increased to the same extent as obesity increased [as well as used as a **prepositional phrase**]
 or
 the prevalence of obesity has increased over the years [as well as used as a **subordinating conjunction**]
CORRECT [if the **former** is meant] by
replacing **as well as** by **to the same extent as the increase in**
 The number of smokers has increased over the years **to the same extent as the increase in** prevalence in obesity
CORRECT [if the **latter** is meant] by
replacing **as well as** by **as has**
 The number of smokers has increased over the years **as has** the prevalence of obesity

The use of pesticides in rural areas has been associated with poor sperm quality **as well as** urban air pollution

ERROR *Semantics*: ambiguous, **it is unclear** what **as well as** refers to
so **this could be interpreted as**
the use of pesticides is associated with air pollution [as well as used as a *prepositional phrase*]
or
air pollution is associated with poor sperm quality [as well as used as a *subordinating conjunction*]

CORRECT [if the former is meant] by
replacing **as well as** by **and**

The use of pesticides in rural areas has been associated with poor sperm quality **and** urban air pollution

CORRECT [if the latter is meant] by

replacing **as well as** by **as has**

The use of pesticides in rural areas has been associated with poor sperm quality, **as has** urban air pollution

In fact, dietary patterns may alter sperm quality **as well as** alcohol consumption

ERROR *Semantics*: ambiguous, **it is unclear** what **as well as** refers to
so **this could be interpreted as**

dietary patterns possibly altering alcohol consumption [as well as used as a *prepositional phrase*]

or

alcohol consumption altering sperm quality [as well as used as a *subordinating conjunction*]

CORRECT [if the former is meant] by

replacing **as well as** by **and**

In fact, dietary patterns may alter sperm quality **and** alcohol consumption

CORRECT [if the latter is meant] by

replacing **as well as** by **as does**

In fact, dietary patterns may alter sperm quality **as does** alcohol consumption

ALERT Check that **as well as** joins grammatical equivalents when used as a conjunction

Their job is **to design** the primers **as well as** **validating** them

STYLE *Word usage*: the **clauses do not match**, the first contains an infinitive, the second a participle

CHANGE by

using **two infinitives**

Their job is **to design** the primers as well as **to validate** them

using **two gerunds**

Their job is **designing** the primers as well as **validating** them

As well/either

as well adverbial phrase

used in answers **agreeing** with a **positive**

statement
response

I can see the cytoplasmic droplets, can you?
Yes, I can see them **as well**

either specific determiner

used in answers **agreeing** with a **negative**

statement
response

I can't see the cytoplasmic droplets, can you?
No, I can't see them **either**
Ligation **does not affect either** parameter

for **negative** statements

See: [Any/some](#), [Each/either/neither](#), [No/yes in agreements](#)

As whether

Style: **as** is **unnecessary**, **whether** alone is **sufficient**

As yet

Style: **as** is **unnecessary**, **yet** alone is **sufficient**

Ascend/descend

ascend to move from a lower to a higher position, to come or to go up

The **ascended** Castle Peak via the difficult route

descend to move or fall downwards

In this condition the testes fail **to descend** into the scrotum

ALERT Check that **ascend** and **descend** refers to situations where direction is clear

After entry into the uterus, spermatozoa **ascend** the female tract

ERROR *Semantics*: an ascent **depends on** the anatomy of a particular species and the animal's position

CORRECT by using **verbs not defining** a direction

After entry into the uterus, spermatozoa **progress/migrate/move through** the female tract

There is a change in the compaction in their DNA as spermatozoa **descend** the epididymis

ERROR *Semantics*: a descent **depends on** the anatomy of a particular species and the animal's position

CORRECT by using **verbs not defining** a direction

There is a change in the compaction in their DNA as spermatozoa **progress/migrate/move through** the epididymis

Ascension/ascent/descent

ascension the action of rising to an important position or a higher level

Her **ascension** to the presidency was unheralded

ascent a rise to a higher social position or rank

His **ascent** to leader was rapid

descent an act of moving downwards, dropping or falling

The plane's **descent** was rapid

the origin or background of a person in terms of family or nationality

The settlers were of Cornish **descent**

Ascertain

to decide, to establish, to find out, to find out for certain

Ascribable/ascribed

ascribable adjective

resulting from a specific cause

He considered the decline in organ weight **ascribable** to the low androgens

ascribed past tense and past participle of the verb to ascribe

to regard as resulting from a specific cause

He **ascribed** the decline in organ weight to the lack of androgens

[**only people** can **ascribe** things]

ALERT Check that **ascribed** refers to an object **capable of ascribing**

The upregulation of ESR1 in the knockout animals might be directly **ascribed** to the ablation of mature miRNAs

ERROR *Syntax:* **only people** can **ascribe something** but **no people** are mentioned

CORRECT by

using an **adjective**

The upregulation of ESR1 in the knockout animals might be directly **ascribable** to the ablation of mature miRNAs

rewriting the sentence by **inserting a human element**

The upregulation of ESR1 in the knockout animals **was** directly **ascribable by Jones (1976)** to the ablation of mature miRNAs

Aspect/respect

aspect a particular part, feature or quality of something

From every **aspect** this was novel research

respect a particular aspect, point or detail

In this **respect** the studies are similar

See: [From this aspect/respect](#), [In this aspect/respect](#)

A-spermia/-zoospermia

aspermia no semen

[WHO terminology]

azoospermia no spermatozoa in semen

[WHO terminology]

See: [Azoo-spermia/-spermic](#)

Assay

noun a procedure for measuring the activity of a sample

Each **assay** was performed in duplicate

verb to determine the activity of a sample

Cell-free seminal fluid was **assayed** for glucosidase, zinc and fructose

NOTE *Overused word:* often used unnecessarily or incorrectly

Assemblage/assembling/assembly

assemblage noun

a gathering of things or people

There was an **assemblage** of student groups in the foyer

assembling gerund

the act of gathering together

Assembling outside the examination rooms is forbidden from 10.00

present participle

in the process of gathering together

The **assembling** students were quiet and orderly

assembly noun

a group of people gathered for purpose

At 9.00 the **assembly** of students will decide on the order of the talks

Assertion-/eminence-/evidence-/opinion-based treatment

assertion-based treatment based on **assertions** of an **eminent** authority

eminence-based treatment based on **statements** of an **eminent** authority

evidence-based treatment based on **evidence** (collected according rigorous empirical science standards)
numbers (significance levels, effect sizes)

opinion-based treatment based on **opinions** of an **eminent** authority

Assess/count/estimate

assess to evaluate or quantify the nature of objects

quantitative

We **assessed** sperm numbers by using a haemocytometer

count to determine the total number of objects

quantitative

Spermatozoa were **counted**

estimate to judge approximately the value of objects

qualitative

Sperm concentration was **estimated** from the turbidity of the sample

[**only people** can **assess, count or estimate** things]

See: [Evaluate/evaluation](#), [Quantify/quantitate](#)

ALERT Check that **count** is the correct word

Sperm numbers were **counted**

ERROR *Syntax:* numbers are assessed, spermatozoa are counted (in numbers)

CORRECT by

replacing counted by **assessed**

Sperm numbers were **assessed**

replacing sperm numbers by **spermatozoa**

Spermatozoa were counted

Assessing

non-finite forms of the verb to assess

a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Assess/count/evaluate](#), [Gerunds/participles](#)

ALERT Check that **assessing** is not used for insentient objects

This measurement can assist in **assessing** samples under a state of high oxidative stress
 ERROR *Syntax: measurements are insentient and cannot assess anything*
 CORRECT by **replacing assessing with by the assessment of**
 This measurement can assist in **the assessment of** samples under a state of high oxidative stress

Assist/assistance

assist verb to help The technician **assisted** in the preparation of cannulae
assistance noun help The technician provided **help** to the students

Associated to/with

associated with connected, linked, related The weight of the epididymis was **associated with** that of the testis

Association/correlation/regression

association a **connection** between values There was clearly an **association** between sperm volume and the presence of quinine
correlation **quantifies** the degree of association There was a **positive linear correlation** between sperm volume and quinine concentration
regression **predicts** the relationship between
 two variables linear regression analysis
 more than two variables multiple linear regression analysis

NOTE neither association nor correlation **indicates a causal relationship** between variables

See: [Analysis of categorical data](#), [Coefficient of correlation/determination/regression/variation](#)

Assume/presume

assume to consider to be true (in the **absence** of proof), to suppose
 followed by a finite verb in the **declarative** mood It was **assumed** that the size of the population **was** 12,000
 It is **assumed that** these cells **are** capacitated
 She **assumed** responsibility for the project
presume to take or begin to have
 to consider to be true (on the basis of some **evidence**)
 followed by a finite verb in the **declarative** mood It is **presumed that** capacitation **permits** the uptake of cellular calcium
 From these data the drug was **presumed** to inhibit ATP formation
 to be arrogant enough to do something The patient **presumed** to suggest he be included in the new drug trial

ALERT Check that the verb following **assume that** and **presume that** is in the **declarative** mood

It has been **assumed that** oxidation of sperm DNA **could explain** the genetic abnormalities in the offspring
 ERROR *Oxymoron: assume that introduces concepts **considered to be true** but the conditional **could** implies **uncertainty***
 CORRECT [if there is **sufficient** evidence] by
 using the **declarative** mood

It has been assumed that oxidation of sperm DNA **explains** the genetic abnormalities in the offspring
 It has been assumed that oxidation of sperm DNA **can explain** the genetic abnormalities in the offspring
 CORRECT [if there is a **condition**] by
 providing the **condition**

It has been **assumed that** oxidation of sperm DNA **could explain** the genetic abnormalities in the offspring **if leukocyte infiltration of the epididymis were considerable**
 CORRECT [to reflect **uncertainty**] by
 omitting **It has been assumed that**
 Oxidation of sperm DNA **could explain** the genetic abnormalities in the offspring

I **presume that** their next publication **may examine** the role of oncogenes
 ERROR *Oxymoron: presume that introduces concepts **almost certainly true** but **may examine** indicates **uncertainty***
 CORRECT [if there is **sufficient** evidence] by
 using the **future declarative** mood
 I **presume that** their next publication **will examine** the role of oncogenes
 CORRECT [to reflect **uncertainty**] by
 omitting **I presume that**
 Their next publication **may examine** the role of oncogenes

Assuming/by assuming

assuming present participle can define a **noun** **Assuming** attendance of 90%, the **organisers** calculated the subscriptions
 gerund can define a **verb** **Assuming** that he will arrive on time **is** not a good idea
by assuming gerundial phrase can define a **verb** The income from the meeting **was calculated by assuming** 90% attendance

See: [By assuming/on the assumption of](#)

ALERT Check the **meaning** if **assuming** follows a **passive verb**

The yield was **calculated assuming** equilibrium conditions
 ERROR *Syntax: assuming is a participle used as an adverb to describe a verb (calculated)*
 CORRECT [if the requirement of the **calculations** was equilibrium conditions] by
 using a **gerundial phrase**
 The yield was calculated **by assuming** equilibrium conditions
 using a **prepositional phrase**
 The yield was calculated **on the assumption of** equilibrium conditions
 rewriting the sentence with a **human element**

Assuming equilibrium conditions **we** calculated the yield
We assumed equilibrium conditions for the calculation of yield

Assure/ensure/insure

assure to instil confidence in a person The doctor **assured** him he would feel better after taking the medicine
 [only people can assure others]
ensure to make sure an action is taken Using an established writing style **ensures** consistency throughout a publication
insure to arrange for compensation in the case of damage The laboratory was **insured** against fire

ALERT Check that **assure** refers to people

Coomassie Blue staining of the gel was performed to **assure** equal protein loading
ERROR Syntax: **staining** is **insentient** and **cannot** assure anything
CORRECT by
 replacing **assure** by **ensure**
 Coomassie Blue staining of the gel was performed to **ensure** equal protein loading
 rewriting **the sentence** with a **human element**
We assured ourselves that there was equal protein loading **from** the Coomassie Blue staining of the gel
 rewriting **the sentence** by **omitting performed**, and **replacing assure equal** by **indicate the level of**
 The gels were stained with Coomassie Blue to indicate the level of protein loading

Asthenzo-spermia/-zoospermia

asthenozoospermia [WHO terminology] relating to spermatozoa not semen

Asthenozoospermia/-spermic

asthenozoospermia noun the state of being **asthenozoospermic**
 with the percentage of motile spermatozoa in the ejaculate below the lower WHO reference limit
 [WHO terminology] The control patients were chosen for their **asthenozoospermia**
asthenozoospermic adjective suffering from **asthenozoospermia**
 having the percentage of motile spermatozoa in the ejaculate below the lower WHO reference limit
 [WHO terminology] The control patients were **asthenozoospermic**
 [only men and animals, **not semen**, can be **asthenozoospermic**]

At/by that time

at the time when an event occurs **At that time** (the late 1970s) he was still an undergraduate
by the end of a particular period, a deadline **By that time** (1974) he was already a post-doctoral fellow
 You should have finished your first draft **by that time** (Wednesday week)

At/by the rate of

at the rate of followed by the **value** Graduate numbers are growing **at the rate of 20%** per year
 can be replaced with **by** Graduate numbers are growing **by 20%** per year

At/in the end

at the end at the point where something stops The Discussion is a bit weak **at the end**
in the end after a long time, after much delay, at last, eventually, finally **In the end** I obtained a visa to visit China

See: [At last/finally](#)

At/to the best of my knowledge

to as far as someone knows or is able to ascertain **To the best of our knowledge** this is the first report of a dinosaur epididymis

At a young age

Pleonasm: as **young** means of low **age**, use **when young** or **at a low age**

At an old age

Pleonasm: as **old** means of high **age**, use **when old** or **at a great age**

At all

in any way, to any extent used for emphasis I don't like his attitude **at all**

NOTE Overused phrase: often used unnecessarily [omit]

At an earlier date

Pleonasm: as **earlier** implies a time, **date** is **superfluous**: use **earlier**, or **previously**

At last/finally

at last after a long time, after much delay, eventually, finally, in the end **At last** he has arrived
finally after a long time, typically where there has been some difficulty or delay After three hours he **finally** arrived to join us
 as the last in a series of related events or items **Finally** I have to mention the financial support I received

See: [At/in the end](#)

At least/most

at least no less than, the minimum, equal to or more than Volunteers should have **at least** 20 million spermatozoa per ejaculate
at most no greater than, the maximum, equal to or fewer than The patients selected should have **at most** 60 million spermatozoa per ejaculate

See: [Maximum/minimum](#)

At least... or more

Tautology: as both **at least** and **or more** mean the minimum or above, one phrase is *superfluous*: use **one or the other**, not both

At some future time

Style: cliché, verbosity, can be shortened: replace by **later**

At the present

Style: cliché, verbosity, can be shortened: replace by **currently/now**

At the present moment

Style: cliché, verbosity, can be shortened: replace by **currently/now**

At the present moment in time

Style: cliché, verbosity, can be shortened: replace by **currently/now**

At the same time

simultaneously

does not mean and

At this moment

Style: cliché, verbosity, can be shortened: replace by **currently/now**

At this moment in time

Style: cliché, verbosity, can be shortened: replace by **currently/now**

At this point

Style: cliché, verbosity, can be shortened: replace by **currently/now**

At this point in time

Style: cliché, verbosity, can be shortened: replace by **currently/now**

At this time

Style: cliché, verbosity, can be shortened: replace by **currently/now**

Attach together

Pleonasm: as **attach** implies joining together, **together** is *superfluous*: use **attach**

Attain/obtain

<i>attain</i>	transitive verb with an abstract noun to achieve or accomplish	with effort	He attained a degree after three years of study Eventually she attained the position of head technician
	to reach a specified age, date, amount	with no effort	By 360g they attain sexual maturity With age they attained the weight of control animals
<i>obtain</i>	transitive verb with a concrete noun to gain possession of	with effort with no effort	He obtained a diploma after being awarded his degree The results obtained showed an increase in sperm motility
	intransitive verb (formal) to be prevalent, customary or established		Gender inequality obtains here as well

NOTE *Overused word:* often used unnecessarily, replace by **what was attained** [or omit]

ALERT Check whether attained should be replaced by a **more informative word**

After several weeks of training, **improved** cell culture results were **attained**

STYLE *Verbosity:* can be shortened

CHANGE by **omitting** **attained** and

replacing the **adjective** by its related **verb**

After several weeks of training, cell culture results **improved**

Attempt

noun	an effort to achieve or complete a difficult task or action	auxiliary verb followed by an infinitive with infinitive marker to [only people can attempt things]	His attempt to quantify hyperactivation by stroboscopy failed
			He attempted to measure sperm volume by flow cytometry

See: [Anthropogenic/anthropometric/anthropomorphic/anthropomorphism](#), [Teleology](#)

Attention/attentions

<i>attention</i>	attention is a mass noun, which has no plural the plural form takes a partitive construction	Little attention was given to her thesis at the time A lot of attention was given to it when she was famous
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Attenuate

to reduce the force, effect or value of, to mitigate	This research provides hope that coral reefs can attenuate the effects of ocean acidification
to reduce in thickness, to make thin	Microscopy revealed that the cysts were lined by attenuated endothelial cells

See: [Militate/mitigate](#)

Attributable/attribute/contribute

attributable	adjective	regarding as resulting from a specific cause [only people can make attributions]	The swelling may be attributable to the low osmolality
attribute	verb	to regard something as resulting from a specific cause [only people can attribute things]	He attributed the swelling to the low osmolality
	noun	a characteristic	One attribute of non-fertilising spermatozoa is lack of motility
contribute	verb	to put in effort to help achieve something	He contributed much time to organising English corner

ALERT Check that **attribute** is the intended word

The high abundance of miRNAs in the human epididymis may **attribute** to the rare incidence of malignancy

ERROR *Syntax*: **abundance** is **insentient and cannot** make attributions

CORRECT [if miRNA abundance has a **tenuous** link to malignancy] by

replacing **attribute** by **be attributable**

The high abundance of miRNAs in the human epididymis may **be attributable** to the rare incidence of malignancy

CORRECT [if miRNA abundance has a **credible** link to malignancy] by

replacing **attribute** by **contribute**

The high abundance of miRNAs in the human epididymis may **contribute** to the rare incidence of malignancy

Attributive/predicative

attributive	of modifiers that attribute qualities to a word placed before the noun they modify attributive nouns (noun adjuncts) attributive adjectives	culture room new culture room	work bench sterile work bench	semen analysis recent semen analysis
predicative	of modifiers that comprise a predicate placed after the linking verb predicative adjectives	The culture room is new	The work bench is sterile	The semen analysis is recent
NOTE	there are no (*) [predicative nouns]	*The room is [culture]	*The bench is [work]	*The analysis is [semen]

See: [Adjectives](#), [Word modifiers](#)

Augur/bode/portend

augur	to be a sign that something (good or bad) is likely to happen, to bode	Advances in technology augurs well developing new assays
bode	to be a sign that something (good or bad) is likely to happen, to augur	He fears that this event augurs a revival of student unrest
portend	to be a sign that something (momentous or calamitous) is likely to happen	Their Impact Factors bode well for the students' future The fall in profits portends trouble for temporary workers

See: [Auspicious/portent](#)

Aural/oral/verbal/written

aural	relating to the ears (the sense of hearing)	The blind often have heightened aural perception
oral	the spoken word, by word of mouth	oral agreement/message [a spoken agreement/message]
	relating to the mouth (the oral cavity)	oral hygiene
verbal	relating to words (not the method of communication)	verbal confusion [confusion of words] verbal misunderstanding [confusion about the meaning of words]
written	marked on a surface (paper, parchment) written agreement/message [an agreement, a message that is written down]	

See: [Verbal/verbals](#)

Auspicious/portent

auspicious	adjective	conducive to success, favourable	After winning the award was an auspicious time to open the new lab.
portent	noun	a sign that a momentous event is likely to happen	The portents are not very positive for our obtaining the grant

See: [Augur/bode/portend](#)

Authoritative/authoritative

authoritative	able to be trusted as being accurate or true, reliable commanding and self-confident, likely to be respected and obeyed	He gave clear, authoritative information and advice Her voice was calm and authoritative
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Autopsy/post-mortem

autopsy	noun	a post-mortem examination, examining a dead body	An autopsy was performed to discover the cause of death
post-mortem	adjective	after death	The post-mortem recovery of epididymides was done within 15 min
	is not	a noun	

ALERT Check that **post-mortem** is not used as a noun

A **post-mortem** was performed to discover the cause of death

ERROR *Syntax*: post-mortem is an adjective not a noun

CORRECT by

replacing **a post-mortem** by **an autopsy**

An **autopsy** was performed to discover the cause of death

providing a **noun** for post-mortem to define

A post-mortem **examination** was performed to discover the cause of death

Auto-radiography/radio-autography

auto-radiography (radiography) from **auto** (self) and **radiography** (photography of irradiated images)
a **negative** photographic image of an object **absorbing** radiation (from an external source)
e.g. an X-ray image of a bone or tooth

radio-autography from **radio** (radiation) and **autography** (self photography)
a **positive** photographic image of an object **emitting** radiation (containing a radiation source)
e.g. tissue sections labelled with radioactive tracer, western/northern/Southern blots

Averse

See: [Adverse/averse](#)

Aversion/averting

aversion	noun	strong dislike or disinclination	He had an aversion to working with monkeys
averting	verb	preventing or warding off undesirable occurrences turning away	It acts by averting proliferation and angiogenesis She was averting her eyes while we made the incision

ALERT Check that **aversion** is the intended word

This may be attributable to: destruction of tumours, promotion of dormancy and **aversion** of proliferation

ERROR Syntax: an **action to prevent** proliferation is intended, not a feeling

CORRECT by **replacing aversion** by **averting**

This may be attributable to: destruction of tumours, promotion of dormancy and **averting** proliferation

Aversion for/from/to

to He has an **aversion to** working with mice

Avoid/prevent

avoid	to keep away from something that may exist or happen followed by a noun gerund not an infinitive	To avoid contamination the samples were prepared in a sterile work bench I deliberately avoid leaving during the seminar
prevent	to stop something from existing or happening followed by a noun gerund not an infinitive	To prevent contamination the sterile work bench has a micro-filter fitted I tried to prevent her from leaving during the seminar

See: [Prevent/stop](#)

Avoirdupois/troy

avoirdupois	a system of weights based on 16 ounces (oz) and 7000 grains (gr.) to the pound (lb)
troy	a system of weights based on 12 ounces (oz) and 5769 grains (gr.) to the pound (lb) mainly used for precious metals and gems

See: [Ton/tonne](#)

Away/away from

away	adverb	It is now two weeks away from the election	[the election is ahead: in two weeks]
from	preposition	It is now two weeks from the election	[the election was in the past: two weeks ago]

See: [From/to](#)

Awhile

See: [A while/awhile](#)

Awry/wry

awry	away from the usual or expected course, amiss	The storm caused his travel plans to go awry
wry	using or expressing dry, especially mocking, humour	She gave a wry smile when he mentioned his own long list of publications

Axis

an imaginary line about which something rotates	the Earth's axis	a centrifuge rotor's axis	
a fixed reference line for the measurement of coordinates	the x- axis (abscissa)	the y- axis (ordinate)	the z- axis (applicate)
a physiological regulatory connection between organs	the brain-pituitary-gonadal axis		

See: [Abscissa/applicate/ordinate](#), [Revolve/rotate](#)

Azoo-spermia/-spermic

azoospermia	noun	the state of being azoospermic	[WHO terminology]	Many of the infertile men suffered from azoospermia
azoospermic	adjective	suffering from azoospermia	[WHO terminology]	Azoospermic men were not enrolled into the study
[only men and animals, not semen, can be azoospermic]				

See: [A-spermia/-zoospermia](#)

Back

in the opposite direction from the one that one is facing or travelling towards

NOTE *Overused word*: often used unnecessarily [**omit**]

See: [Prefix list](#)

ALERT Check that **back is not** used with words *implying going back* (e.g. words containing the Latin prefix **re**)

The student **repaid back** the loan money provided

I had to **refer back** to my notes

I **returned back** the exam papers

After the holidays our workload **reverted back** to normal

ERROR *Pleonasm*: as words containing **re** express the notion of going back, **back** is *superfluous*

CORRECT by **omitting back**

The student **repaid** the loan money provided

I had to **refer** to my notes

I **returned** the exam papers

After the holidays our workload **reverted** to normal

Backward/backwards

backward adjective backward-looking He was rather **backward** in his attitude to publishing

backwards adverb towards the back Swollen spermatozoa, with heads facing away from the direction of motion, appear to swim **backwards**

Bad/badly

bad adjective describing a **noun** The new **students** are just as **bad**

badly adverb describing a **verb** The new students **behave** just as **badly**

See: [Position of adverbs](#)

Base/full infinitive

base (bare, simple, plain) infinitive **without** the infinitive marker (subordinator, particle) **to**

I shall **write** I do **think** I must **do** it

full (to-) infinitive **with** the infinitive marker (subordinator, particle) **to**

I need **to write** I wish **to think** I want **to do** it

See: [Infinitives](#)

Based on/on the basis of

based on adjectival phrase the use of something specified as a foundation for something

can define a **noun**, **pronoun** and **noun phrase**

The administration sent a **document based on** your suggestion

[the suggestion is included in the **document**]

The committee made **decisions based on** the information at hand

[the information influenced the **decision**]

We should make **judgements based on** the evidence

[the evidence should influence **judgements**]

We must make independent **judgements based on** the situation

[the situation must dictate **judgements**]

does not define a **verb**

on the basis of prepositional phrase the justification for or reasoning behind something

defines a **verb**

The administration **sent** a document **on the basis of** your suggestion

[the suggestion was **to send** the document]

The committee **made** decisions **on the basis of** the information at hand

[the information prompted **decision-making**]

We **should make** our judgements **on the basis of** the evidence

[the evidence prompted **judgement-making**]

We must **make** independent judgements **on the basis of** the situation

[the situation dictates **judgement-making**]

does not define a **noun**

ALERT Check the meaning when **based on** follows a **noun**

In this system, students **are ranked** in reverse **order based on** their performance in the previous exams

ERROR *Semantics*: ambiguous, **it is unclear** whether **based on** refers to the nearest noun (**order**) or verb (**ranked**)

so **this could be interpreted as**

the **order** is based on the previous performance

or

the **ranking** is based on the previous performance

CORRECT [if the **former** is meant] by

replacing **reverse** by **an** and inserting **the reverse of**

In this system, students are ranked in **an** order based on **the reverse of** their performance in the previous exams

CORRECT [if the **latter** is meant] by

replacing **based on** by **on the basis of**

In this system, students **are ranked** in reverse order **on the basis of** their performance in the previous exams

replacing **based on** by **of**

In this system, students **are ranked** in reverse order **of** their performance in the previous exams

We isolated stem cells in the human **prostate based on** their cell surface markers

ERROR *Semantics*: **based on** is a participle and **prostate** is the nearest noun it can complement

so **this implies** that the **prostate** was based on cell surface markers

CORRECT [if the **isolation** of cells was based on their surface markers] by

replacing **based on** by **on the basis of**

We isolated stem cells in the human prostate **on the basis of** their cell surface markers

rewriting **the sentence** with a **noun** for **based on** to describe

The **isolation** of stem cells in the human prostate was **based on** their cell surface markers

The work done by **scholars based on** this assumption has not furthered our understanding in this field
 ERROR *Semantics: **based on** is a participle and **scholars** is the nearest noun it can complement*

*so this implies that the **scholars** were founded on the assumption*

CORRECT [if the **work** was founded on the assumption] by

replacing **based on** by **on the basis of**

The work done by scholars **on the basis of** this assumption has not furthered our understanding in this field

rewriting **the sentence** by moving **based on** closer to the **noun** it describes

The **scholar's work, based on** this assumption, has not furthered our understanding in this field

ALERT Check the meaning when **based on** begins a sentence

Based on the MALDI-TOF results, testicular proteins were given a unified nomenclature

ERROR *Semantics: **based on** is a participle and **proteins** is the nearest noun it can complement*

*so this implies that the testicular **proteins** were based on the results*

CORRECT [if the **nomenclature** was derived from the MALDI-TOF results] by

replacing **based on** by **on the basis of**

On the basis of the MALDI-TOF results, testicular proteins were given a unified nomenclature

replacing **based on** by a **preposition**

From the MALDI-TOF results, testicular proteins were given a unified nomenclature

rewriting **the sentence** with a **noun** for **based on** to describe

A unified **nomenclature, based on** the MALDI-TOF results, was given to the testicular proteins

Based on changes in their immuno-cytochemical expression, the function of Sertoli cells developed in the neonate

ERROR *Semantics: **based on** is a participle and **function** is the nearest noun it can complement*

*so this implies that a **function** expresses antigens*

CORRECT [if the **development** of function **was concluded** from changes in Sertoli cell antigen expression] by

replacing **based on** by **on the basis of** and using a **human element**

On the basis of the changes in their immuno-cytochemical expression, **we concluded** that the function of Sertoli cells **developed** in the neonate

replacing **based on** by **on the basis of**, and using the **passive**

On the basis of the changes in the immuno-cytochemical expression, the function of Sertoli cells **was judged to develop** in the neonate

rewriting **the sentence** with a **noun** for **based on** to describe, and using the **passive**

The **function** of Sertoli cells, **based on** changes in their immuno-cytochemical expression, **was judged to develop** in the neonate

Based on these criteria, the abstracts should be ranked for their eligibility for the poster session

ERROR *Semantics: **based on** is a participle and **abstracts** is the nearest noun it can complement*

*so this implies that the **abstracts** were based on the criteria*

CORRECT [if the **ranking** was to be based on the criteria] by

replacing **based on** by **on the basis of**

On the basis of these criteria, the abstracts should be ranked for their eligibility for the poster session

replacing **based on** by a **preposition**

From these criteria, the abstracts should be ranked for their eligibility for the poster session

replacing **based on** by a **participial phrase**

Judged from these criteria, the abstracts should be ranked for their eligibility for the poster session

rewriting **the sentence** with a **noun** for **based on** to describe

The eligibility of the abstracts for the poster session should come from a **ranking, based on** these criteria

ALERT Check the meaning if **based on** follows a **past participle**

The equipment **was standardised based on** the fluorescence intensity of commercially available slides

ERROR *Syntax: there are two past participles*

CORRECT by omitting **based**

The equipment **was standardised on** the fluorescence intensity of commercially available slides

ERROR *Semantics: **based on** is a participle used as an adverb to describe a verb (**standardised**)*

CORRECT [if the **standardisation was determined** from the fluorescence intensity] by

replacing **based on** by **on the basis of**

The equipment was standardised **on the basis of** the fluorescence intensity of commercially available slides

rewriting **the sentence** with a **noun** for **based on** to define

The **standardisation** of the equipment **was based on** the fluorescence intensity of commercially available slides

The experiments **were designed based on** our previous results

ERROR *Syntax: there are two past participles*

CORRECT by omitting **designed**

The experiments **were based on** our previous results

ERROR *Semantics: **based on** is a participle used as an adverb to describe a verb (**designed**)*

CORRECT [if the previous results dictated the **design** of the experiments] by

replacing **based on** by **on the basis of**

The experiments were designed **on the basis of** our previous experiments

rewriting **the sentence** with a **noun** for **based on** to describe

The **design** of the experiments was **based on** our previous results

The experimental **design** was **based on** our previous results

The **experiments designed** were **based on** our previous results

Two pairs of primers (FP1/RP1, FP2/RP2) **were synthesised based on** the sequences of these two fragments

ERROR *Syntax: there are two past participles*

CORRECT by **omitting synthesised**

Two pairs of primers (FP1/RP1, FP2/RP2) **were based on** the sequences of these two fragments

ERROR *Semantics:* **based on** is a participle used as an adverb to describe a verb (**synthesised**)

CORRECT [if the **design** of the primers synthesised depended on the fragment sequences] by

replacing based on by on the basis of

Two pairs of primers (FP1/RP1, FP2/RP2) were synthesised **on the basis of** the sequences of these two fragments

replacing based on by according to

Two pairs of primers (FP1/RP1, FP2/RP2) were synthesised **according to** the sequences of these two fragments

rewriting the sentence with a **noun** for **based on** to describe

The **synthesis** of two pairs of primers (FP1/RP1, FP2/RP2) was **based on** the sequences of these two fragments

rewriting the sentence by using **synthesised** as an **adjective**

The two pairs of primers (FP1/RP1, FP2/RP2) **synthesised** were **based on** the sequences of these two fragments

ALERT Check the **meaning** when **on the basis of** begins a sentence

On the basis of the sequences of these two fragments, two pairs of primers (FP1/RP1, FP2/RP2) were synthesized

ERROR *Style:* the subordinate clause coming **before** the main clause requires the reader to memorise a lot before the verb is reached

CORRECT by **inverting the sentence**

Two pairs of primers (FP1/RP1, FP2/RP2) **were synthesized on the basis of** the sequences of these two fragments

Based on the fact that

Style: verbosity, can be shortened: replace by **because**

Basic

fundamental, at a deep level, alkaline

NOTE *Overused word:* often used unnecessarily [omit]

ALERT Check if an alternative to **basic** exists

The **basic** cause is the **basic** pH

ERROR *Syntax:* **basic** is used twice with different meanings; the first **basic** is **superfluous**, as no alternative cause or reason is given

CORRECT by

omitting the first **basic**

The cause is the **basic** pH

replacing the **second basic** by **alkaline**

The **basic** cause is the **alkaline** pH

Basic fundamentals

Pleonasm: as **fundamentals** are by definition basic, **basic** is **superfluous**: use **fundamentals**

Basically

fundamentally, at the deepest level

NOTE *Overused word:* often used unnecessarily [omit]

ALERT **do not** use when no comparison with a higher level is mentioned

Basis/basis point

basis the underlying support or justification for an idea or argument

basis point a hundredth of one per cent

NOTE *Overused word:* often used unnecessarily [omit]

See: [Per cent/per mille/per myriad](#)

ALERT Check whether a shorter alternative is available for **basis**

Dry ice is available on a monthly (temporary/weekly/yearly) **basis**

STYLE *Verbosity:* can be shortened

CHANGE by **omitting basis** and using an **adverb**

Dry ice is available **monthly** (temporarily/weekly/yearly)

BC/BCE

See: [AD/BC/BCE/CE](#)

Be

a **lexical linking verb**

of complete predication

of incomplete predication

a **non-modal auxiliary verb** forming

continuous tenses

negatives

the passive voice

the subjunctive mood

with a **present participle**

with **not**

with a **past participle**

as 3rd person plural form

as base infinitive form

to be

I **am** (I exist)

She **is** ambitious

He **is operating** now

She **is not** taking up the offer

His instruments **were covered** with blood

If I **were** you I'd stop

We address all concerns, **be** they tax breaks or **be** they student numbers

See: [Albeit/although/though](#), [Complete/incomplete predication](#), [Linking verbs](#), [Modal/non-modal/quasi-modal verbs](#), [Verbs](#)

Bear in mind

to remember a fact and take it into account When comparing species, students should **bear in mind** the differences between breeds as well
[*only people* can **bear things in mind**]

ALERT Check that **bear in mind** is applicable to people

Future work on dog spermatozoa should **bear in mind** major differences between breeds

ERROR *Syntax*: **work** is **insentient and cannot** bear anything in mind

CORRECT by **replacing work** by **workers**

Future workers on dog spermatozoa should **bear in mind** major differences between breeds

Because/for/since

because subordinating conjunction, adverbial sense of reason

for the reason that, as, for, since

may begin a sentence

does not introduce a noun clause

He climbed the stair carefully **because** he was frail

Because he was frail, he climbed the stairs carefully

for subordinating conjunction, adverbial sense of reason

for the reason that, as, because, since

does not begin a sentence

He climbed the stairs carefully **for** they were narrow

since as a subordinating conjunction, adverbial sense of reason

for the reason that, as, because, for

may begin a sentence

He climbed the stairs carefully **since** he had just had an operation

Since he had just had an operation, he climbed the stairs carefully

See: [Ago/by/since](#), [Because... does not mean](#), [For/since/until](#), [Since](#)

ALERT Check that **because** applies to objects **capable of reasoning**

Androgens control secretion of the protein **because** its levels decline markedly after castration

ERROR *Teleology*: this implies that the **secretory process responds deliberately** to post-castration changes in protein levels

CORRECT [if androgen-dependence was **concluded** from the post-castration decline in protein levels] by

replacing because by a **participial phrase**

Androgens control secretion of the protein **as judged by** the marked decline in its levels after castration

Androgens control secretion of the protein **as demonstrated by** the marked decline in its levels after castration

replacing because by a **gerundial phrase**

Androgens controls secretion of the protein, **judging from** the marked decline in its levels after castration

using an auxiliary verb and **preposition**

Androgens were **judged to** control secretion of the protein **from** the marked decline in levels after castration

rewriting the sentence and **inserting a human element**

From the marked decline in protein levels after castration **we concluded** that androgens control protein secretion

rewriting the sentence and **using the passive**

From the marked decline in protein levels after castration **it was concluded** that androgens control protein secretion

ALERT Check the meaning when **because** joins parallel **negative** statements

He **is not** resigning **because** of the new director

ERROR *Semantics*: ambiguous, **it is unclear** what **because** refers to

so **this could be interpreted as**

he **is** resigning (for a reason **unrelated** to the new director) [a complete sentence consisting of one main clause]

or

he **is not** resigning (for a reason **related** to the new director) [a sentence with a subordinate adverbial phrase of reason]

CORRECT [if the **former** is meant] by

rewriting the sentence by **being more specific**

He **is** resigning, **because** his wife has a new position elsewhere

CORRECT [if the **latter** is meant] by

inserting a comma to introduce an explanatory subordinate clause

He **is not** resigning, **because** of the new director

rewriting the sentence by **being more specific**

He **is not** resigning, **because** the new director offered him a professorship

He **did not take** the new position **because** he **wanted to study** the epididymis

ERROR *Semantics*: ambiguous, **it is unclear** what **because** refers to

so **this could be interpreted as**

he **did not** take the new position (which **was not** on epididymal research) [**because** he **did want** epididymal research]

or

he **did** take the new position (which **was** on epididymal research) [for an unreported reason]

CORRECT [if the **former** is meant] by

inserting a comma to introduce an explanatory subordinate clause

He **did not** take the new position, **because** he **wanted to study** the epididymis

rewriting the sentence by **being more specific**

He **did not** take the new position, **because** it **would not allow him to study** the epididymis

CORRECT [if the **latter** is meant] by

rewriting the sentence by **being more specific**

He **took** the new position, **not because** he wanted to study the epididymis, but for another reason

He **took** the new position, **because it allowed him to study something new**
 He **took** the new position, **because he wanted a change**

People buying packaged food will no longer get free plastic bags because the packaging effectively prevents food leakage
 ERROR *Semantics:* as there is no comma before because, **it is unclear** what **because** refers to, the main or subordinate clause so **this could be interpreted** as the existing packaging

preventing leakage, so free plastic bags **are not** needed [lack of comma unintentional]
 or

not preventing leakage, so free plastic bags **are still** needed [lack of comma deliberate]

CORRECT [if the former is meant] by

inserting a **comma** before because and inserting **existing**

People buying packaged food will no longer get free plastic bags, because the **existing** packaging effectively prevents food leakage

CORRECT [if the latter is meant] by

replacing **no longer** by **still** and **effectively prevents** by **does not prevent**

People buying packaged food will **still** get free plastic bags because the packaging **does not prevent** food leakage

Because... does not mean

the subordinating conjunction **because does not** introduce a noun clause

ALERT Ensure that a **because does not** introduce a noun clause

Because the drug had no effect on sperm motility **does not imply** that it was inactive

ERROR *Syntax:* the conjunction **because does not** introduce a noun clause, so the verb **does not imply** has **no subject**

CORRECT by

inserting a **that**

Because the drug had no effect on sperm motility **that does not imply** that it was inactive

replacing **because** by **the fact that** or **that**

The fact that the drug had no effect on sperm motility **does not imply** that it was inactive

That the drug had no effect on sperm motility **does not imply** that it was inactive

Because... therefore

Tautology: as both **because** and **therefore** mean **for that reason** and introduce a **conditional clause**, one word is **superfluous**: use **one or the other**, not both

See: [As... so](#), [Since... therefore](#), [So... therefore](#)

ALERT Check that there is only one conjunction when using **because** or **therefore**

Because its weight was restored in the castrate with androgens, **therefore** the epididymis is androgen-dependent

ERROR *Syntax:* as **because** is a **conjunction**, it **needs no** adverb **meaning for that reason (therefore)** in the sentence

CORRECT by using **one or the other**, not both, by

omitting **therefore**

Because its weight was restored in the castrate with androgens, the epididymis is androgen-dependent

omitting **because** and replacing **the comma** with **a semicolon**

Its weight was restored in the castrate with androgens; **therefore** the epididymis is androgen-dependent

Because of/caused by

because of **prepositional phrase**

as a result of, on account of, owing to

defines **verbs**

He **was infertile because of** azoospermia

His appointment **was cancelled because of** staff illness

The mutant mice **die** from large blood vessel rupture **owing to** mineralisation

does not define **nouns/pronouns/noun phrases**

caused by **adjectival phrase**

as a result of, attributable to, due to, resulting from

defines **nouns/pronouns**

His **infertility** was **caused by** azoospermia

The **cancellation** of the appointment was **caused by** staff illness

The mutant mice die from large blood vessel **rupture caused by** mineralisation

does not define **verbs**

See: [Due/owing to](#)

Because of the fact that

Style: verbosity, can be shortened: replace by **because**

Before

adverb during the period of time preceding now

We've never seen this behaviour **before**

conjunction during the period of time preceding a particular event

He lived in the hostel **before** moving into his flat

in preference to, rather than

They would resign **before** they would cooperate with each other

preposition during the period of time preceding a particular event

He had to prepare the instruments **before** surgery

in preference to, rather than

She was a student who put work **before** all else

in front of

To give his talk he stood **before** the lectern

Before/earlier/previously

before at an **unknown time** before the **present** time

She's worked here **before**

[some time before now]

	at an unknown time before a future time	The samples were stored at -80°C before analysis [some time before the analysis]
	at a known time before a past time, earlier, previously	When we met he said he had started his research ten years before [ten years before we met]
earlier	at a known time before a past time, previously	Two years ago she told me she had moved to Milan five years earlier [five years before two years ago]
previously	at a known time before a past time, earlier	At the conference they said they had visited Münster three years previously [three years before the conference]

See: [Ago/by/since](#), [Before/for](#)

Before/for

for	refers to a duration , period of time	The samples were stored frozen for 12 months
before	at some before a given time	The samples were stored frozen before analysis

ALERT Check that **for** is the correct word

Samples were stored frozen **for** analysis

ERROR *Semantics*: this implies that the analysis was **done on frozen samples**

CORRECT [if the analysis was done on a **thawed** samples] by

replacing **for** by **before**

Samples were stored frozen **before** analysis

Before/in advance of

before	preposition	coming before in time	He left before the main student group
in advance of	prepositional phrase	as a necessary preliminary to	He went in advance of the main student group

See: [After/subsequent/subsequent to](#), [Plain English](#), [Prepositions](#), [Prior/prior to](#)

Beg the question

to assume the truth of an argument needing proof	Developing a male contraceptive begs the question that men would take it
to raise a point not dealt with, to invite an obvious question	Some reference values beg the question of what constitutes normal semen quality
does not mean to ask the question, to avoid the question, to fail to give a straight answer	

Behaviour/behaviours

behaviour	abstract mass noun	
	the way in which a person or animal acts or conducts itself, especially towards others	
	behaviour is a mass noun, which has no plural	The behaviour of the treated animals is extremely varied
	the plural form takes a partitive construction	The sorts of behaviour observed were clearly abnormal
	abstract count noun	
	one particular way of behaving	This behaviour should be discouraged
behaviours	psychology: plural abstract count noun	This is a set of congruent behaviours , activities and skills

Behoove/behove

behoove	confusion with American English	
behave	formal	necessary or contingent
	format	with dummy word subject
		it is a duty or responsibility
		it is appropriate or suitable, it befits
		does not mean becomes
		It behoves someone to do something
		It behoves the Grant Committee to assure itself that there is no alternative funding
		It ill behoves the Students Union to oppose what will be in the students' best interests

ALERT Check that the usage of behove is correct

The results behoove us to conclude that his hypothesis is correct

STYLE *Syntax*: incorrect usage

CHANGE by **rewriting the sentence** by using **it behoves**

From the results, **it behoves** us to conclude that his hypothesis is correct

Being

non-finite forms of the verb to be
a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Absolute/non-absolute verbal constructions](#), [Gerunds/participles](#), [Phrasal clauses](#), [Phrases](#)

ALERT Check whether **being** is used as a **gerund** or a **participle**

I understand them **being** upset by my findings

ERROR *Semantics*: **them** is objective

so this implies that I **understand them**

CORRECT [if I understand **why** they were upset] by

using the **genitive** and a **gerund**

I understand **their being** upset by my findings

He concealed me **being** in debt from my parents

ERROR *Semantics*: **me** is objective

so this implies that he **concealed me**

CORRECT [if he concealed **my debt**] by
using the **genitive** and a **gerund**
He concealed **my being** in debt from my parents

ALERT Check that **being** has a relevant noun to define

Being irreproducible, he threw the results away
ERROR *Semantics*: **being** is a participle (verbal adjective) and **he** is the nearest noun it can complement
so this implies that **he** was irreproducible

CORRECT [if the **results** were irreproducible] by
changing the **active** to the **passive** voice
Being irreproducible, the **results were thrown** away
replacing **being** by **because they were**
Because they were irreproducible, he threw the results away
replacing **being** by **because the results were** and **the results** by **them**
Because the results were irreproducible, he threw **them** away
using a **phrasal clause** and a **pronoun**
The results being irreproducible he threw **them** away

Being so/the case

being so because this is so This **being so** he left the Discussion to be written by his professor
being the case because this is the case This **being the case** we doubled the detergent concentration

NOTE equivalent gerundial phrases

Believe

to consider to be true (usually without evidence) He **believed** that the spermatocoele contained rete testis fluid

See: [That](#)

ALERT Check that **believed** does not introduce confusion

There were those who **believed** Cooper had failed to account for osmolality changes
ERROR *Semantics*: discourteous, the reader **expects** the **subject** of **believe** to be those who believe **Cooper**
and **then realises otherwise** [the **subject** of **believe** is those who believe **what Cooper did**]
CORRECT by inserting **that**
There were those who **believed that** Cooper had failed to account for osmolality changes

Believe that

used when there is **insufficient evidence** for a conclusion to be drawn
expressed by the following verb in the **declarative** mood It has been **believed** for a long time **that** hyperactivated cells **are** capacitated

See: [Believe](#), [Certainty/uncertainty](#), [Explain](#), [Moods of verbs](#), [That](#)

ALERT Check that the verb following **believed that** is in the **declarative** mood

It is **believed that** hypoxic conditions **could induce** upregulation of glycolytic enzymes
ERROR *Oxymoron*: **believed that** introduces concepts **considered to be true** but the conditional **could** implies a **condition**
CORRECT [if there is **sufficient** evidence] by
replacing **could induce** by **induce**
It is **believed that** hypoxic conditions **induce** upregulation of glycolytic enzymes
CORRECT [if there is a **condition**] by
providing the **condition**
It is **believed that** hypoxic conditions **could induce** upregulation of glycolytic enzymes **if hypoxia is transient**
CORRECT [to reflect **uncertainty**] by
omitting **It is believed that**
Hypoxic conditions **could induce** upregulation of glycolytic enzymes

Beneficial/useful

beneficial favourable or advantageous, resulting in good It is **beneficial** for infertile man to provide semen for analysis
useful able to be used for a practical purpose or in several ways It is **useful** to have extra surgical masks and gloves

ALERT Check that **beneficial** is the **intended word**

The avian system is a **beneficial** model for studying the role of sperm proteasomes
ERROR *Syntax*: whom the model benefits is not stated
CORRECT by
replacing **beneficial** by **useful**
The avian system is a **useful** model for studying the role of sperm proteasomes
inserting an **object** for **beneficial** to define
The avian system is a model **beneficial to those** studying the role of sperm proteasomes

Beneficial for/to

to The diet was **beneficial to** her

Benefited/benefitted

benefited **benefit** is a **polysyllabic** word with **no emphasis** on the **last syllable**
(the final consonant **is not doubled** when adding a suffix [unless it is L or R])

Benefiting/benefitting

benefiting **benefit** is a **polysyllabic** word with **no emphasis** on the **last syllable**
(the final consonant **is not doubled** when adding a suffix [unless it is L or R])

Beside/besides/other than

<i>beside</i>	preposition	by the side of, next to	Her desk was beside mine in the laboratory
<i>besides</i>	preposition	apart from, aside from, as well as, in addition to	Besides my daytime research, I teach English
	adverb	as well, in addition	I am working on her thesis, and many more besides
<i>other than</i>	adjectival phrase	apart from, but, except	These results are not based on anything other than fact

See: [Other/otherwise than](#)

ALERT Check the **meaning** when using **beside**

Beside these two major GPx, the epididymal epithelium expresses at lower levels the cytosolic GPx
ERROR *Semantics*: this implies that the epithelium is **adjacent to** the major GPx
CORRECT [if the cytosolic GPx is expressed **in addition** to the major forms] by
replacing *beside* by *besides*
Besides these two major GPx, the epididymal epithelium expresses at lower levels the cytosolic GPx

ALERT Check that **besides** **is not** used with words **implying additional**

Besides these, 18 novel miRNA candidates were **also** revealed
ERROR *Tautology*: as **besides** and **also** mean **in addition to**, one word is **superfluous**
CORRECT by **using one or the other**, not both, by
omitting *also*
Besides these, 18 novel miRNA candidates were revealed
omitting *besides these*
 Eighteen novel miRNA candidates were **also** revealed

ALERT Check that **besides** has a complementary noun

Besides, corpus and cauda epididymal spermatozoa were stained strongly
ERROR *Syntax*: **besides** requires a **noun** or **pronoun** to complement
CORRECT by
inserting a noun
Besides *caput epididymal spermatozoa*, corpus and cauda spermatozoa were stained strongly
inserting a pronoun
Besides *these*, corpus and cauda spermatozoa were stained strongly

Besides... also

Tautology: as **besides** and **also** mean **in addition to**, one word is **superfluous**: use **one or the other**, not both

See: [Beside/besides/other than](#)

Besides the fact that

Style: verbosity, can be shortened: replace by **although**

Best

superlative of good [nothing is better]

See: [Among the best](#), [Comparative/superlative](#), [One of the best](#), [Some of the best](#)

Beta/Eszett

<i>beta</i>	β, second letter of the Greek alphabet	β-mercapto-ethanol was used as reducing agent
<i>Eszett</i>	ß, German sharp S (double S, ss)	The poster winner is Dr Gaßner
	[now replaced by ss , but retained in Proper nouns (names) and present in old texts]	

See: [Alphabet](#)

Better

verb	to improve	To better her chances in the exam, she spent the evening studying
adverb	more excellently, more efficiently	This work was done to understand better the causes of male infertility

See: [Split infinitives](#)

NOTE as **better** is both a **verb** and **adverb** there is a danger of split infinitives

ALERT Check that **infinitives are not split** by **better**

This work was done **to better understand** the causes of male infertility
ERROR *Semantics*: discourteous, is the verb **to better** (meaning **to improve**) or a split infinitive (**to understand**)?

the reader **expects better** to be the **verb**, and **then realises otherwise** [**better** is used as an **adverb**]
 CORRECT by **not splitting the infinitive** and **moving the adverb after the verb**
 This work was done **to understand better** the causes of male infertility

Better/good/well

better the comparative form of the adjective good used with conjunction than the comparative form of the adverb well used with the conjunction than good the absolute (positive) form of the adjective good used with comparative prepositional phrases well the absolute (positive) form of the adverb well used with comparative prepositional phrases	The current results are better than those obtained before She did it better than I did The results were good compared with those before The results were good in comparison with those before The treated spermatozoa swam well compared with the controls The treated spermatozoa swam well in comparison with the controls
--	---

Between/during

between in the period separating two points in time during throughout the duration of one period of time	This review was started between June and September 2011 The manuscript was completed during the winter of 2011
---	---

See: [During/for/while](#), [Interval/range](#)

ALERT Check the range of figures when using **between... and...**

Research was done **between** 1988 and 1989
 ERROR *Semantics*: there is **no time** between Dec. 31st 1988 and Jan 1st 1989
 CORRECT [if the research was done in 1988 and 1989] by
 replacing **between** by **during**
 Research was done **during** 1988 and 1989
 replacing **between** by **from** and **and** by **to**
 Research was done **from** 1988 **to** 1989

Between/in between/in-between/inbetween

between preposition in between adverbial phrase in-between adjective noun	across the space separating two objects along the space separating two objects situated between two extremes, intermediate a situation between two extremes,	He commutes between Hong Kong Island and the New Territories Cells are cultured in agar gels with a layer of medium in between He is not sure what he wants to study; he's in an in-between state Students can be successes, failures or in-betweens
---	---	---

See: [Among/between/in/of](#)

Between... and... /from... to...

between... and... used for the extent of a range excludes the end figures of an interval a range between 5 and 10 Publishing between 1929 and 1933 Motility lay between 30 and 60% between 5 and 1 and cannot be replaced by a short (En) dash between 5 and 10 between 1929 and 1933 between 30 and 60% between 5 and 1	includes 4 figures (6,7,8,9) includes 3 years (1930, '31, '32) includes 29 percentage points (31... 59) includes 3 figures 1 (4,3,2) not between 5–10 not between 1929–1933 not between 30–60% not between 5–1	[an interval from 6 to 9 inclusive] [an interval from 1930 to 1932 inclusive] [an interval from 31 to 59% inclusive] [an interval from 4 to 2 inclusive]
from... to... used for the extent of an interval includes the upper and lower limits of a range an interval from 5 to 10 He published from 1929 to 1933 Motility ranged from 30 to 60% to can be replaced by a short (En) dash A range from 5–10 He published from 1929–1933 Progressive motility ranged from 30–60%	includes 6 figures (5,6,7,8,9,10) includes 5 years (1929, '30, '31, '32, '33) includes 30 percentage points (30... 60)	[a range between 4 and 11] [a range between 1928 and 1934] [a range between 29 to 61%]

See: [Between/during](#), [Dash/hyphen](#), [Inclusive/through](#), [Interval/range](#)

ALERT Check the **format** when writing **between... and...**

Young published **between** 1929–1933
 ERROR *Syntax*: **between** takes **and**, **not** an En dash
 CORRECT by
 replacing the **En dash** by **and**
 Young published **between** 1929 and 1933
 replacing **between** by **from** and **changing the years cited**
 Young published **from** 1930–1932

ALERT Check the range of figures when using **between... and...**

Young published **between** 1929 and 1933

ERROR *Semantics: this states that* Young published in 1930, 1931 & 1932

CORRECT [if he published in 1929 and 1933] by

replacing **between... and...** by **from... to...**

Young published **from** 1929 **to** 1933

Beyond/in/no/without doubt

<i>beyond doubt</i>	allowing no uncertainty
<i>in doubt</i>	open to question
	feeling uncertain about something
<i>no doubt</i>	indicates the speaker's firm belief that something is true
	introduces a concession, subsequently dismissed as irrelevant
<i>without doubt</i>	indisputably (with the <i>indefinite article</i>)

You've proved it **beyond doubt**

The outcome is no longer **in doubt**

By the age of 14 he was in **no doubt** about his career aims

Those who left were attracted, **no doubt**, by high pay

They **no doubt** did what they could, but it was insufficient

He was **without doubt** the very worst kind of reporter

She was **without a doubt** the very best kind of student

See: [Doubt, No doubt/question/question but](#)

b.i.d./q.d./q_h/q.i.d./t.i.d (Latin)

<i>b.i.d.</i>	abbreviation of bis in die	twice a day
<i>q.d.</i>	abbreviation of quaque die	once a day
<i>q_h</i>	abbreviation of quaque hours	once every _hours
<i>q.i.d.</i>	abbreviation of quater in die	four times a day
<i>t.i.d.</i>	abbreviation of ter in die	thrice a day

Bi-/di-

<i>bi</i> (Latin)	two	bilateral
<i>di</i> (Greek)	two	disomy

See: [Greek/Latin numerical prefixes, Prefix list](#)

Bid

verb	to utter a greeting or farewell to someone	I bid you welcome/goodbye
	past tense bade [rhymes with add]	The professor bade us farewell after the poster session
	past participle bidden [rare]	The supervisors have bidden farewell to their students after the ceremony
	to offer a certain price for something, especially at auctions	Few local investors are willing to bid for such a poor manuscript
	past tense bid	When he saw the first edition he bid a high price for it
	past participle bid	He had bid for the first edition because of its importance to his field
noun	an offer of a price at an auction	There were several bids for the first edition

Bi-lateral/-laterally

<i>bilateral</i>	adjective	involving two parties, especially countries affecting both sides of an organ or structure	There were bilateral agreements to fund male reproduction He suffered from congenital bilateral absence of the vas deferens The tumours were bilateral
<i>bilaterally</i>	adverb	occurring on both sides of an organ, body or structure	The tumours occurred bilaterally

Biannual/biennial

<i>biannual</i>	occurring twice a year	(semi-yearly, once every six months)	The biannual meeting of the planning committee is tonight
<i>biennial</i>	occurring every other year	(on alternate years)	This is the first of a series of biennial exhibitions

Bi-monthly

once every two months **and** twice a month (**twice monthly, semi-monthly, once every two weeks, fortnightly**)

NOTE confusing, **avoid**, use Twice a month **or** Every two months

Bi-weekly

once every two weeks (**fortnightly**) **and** twice a week (**semi-weekly**)

NOTE confusing, **avoid**, use Twice a week **or** Every two weeks (every fortnight, fortnightly)

Bi-yearly

once every two years **and** twice a year

NOTE confusing, **avoid**, use Twice a year **or** Every two years

Bind/bind to

<i>bind</i>	to join something to something else to hold something by chemical bonding	The antibody binds receptors together, mimicking the action of their ligand The zona pellucida binds spermatozoa The protein binds DNA The receptor binds the hormone Spermatozoa bind to the zona pellucida DNA binds to the protein The hormone binds to its receptor
<i>bind to</i>	to join itself to something else	

ALERT Check whether **bind** needs a preposition

In one mechanism extracellular signalling molecules **bind** membrane receptors of target cells

ERROR *Semantics*: it **is not** stated what the signalling molecules bind the receptors to
 CORRECT [if the signalling molecules **themselves** become attached to the receptors] by inserting a **preposition**
 In one mechanism extracellular signalling molecules **bind to** membrane receptors of target cells

Bind/bound

bind	to be obliged to do something	You agree to be bound by the terms of the secrecy agreement
	to join something to something else	He should bind all last year's volumes together
	past participle bound	I have bound all last year's volumes together
bound	to confine, to serve as the boundary of	Water bounds three sides of the institute
	past participle bounded	The institute is bounded on three sides by water
	to leap, to spring	The rabbits bound away when we approach
	past participle bounded	The rabbit bounded away just as we got close

Binomial distribution

See: [Gaussian/non-Gaussian distributions](#)

Biologic/biological

biological adjective relating to biology or living organisms We are studying **biological** membranes

Bisect/dissect

bisect	to cut or divide into two (usually equal) parts	The zona pellucida was bisected for the control and treated specimens
dissect	to cut apart or separate	The epididymis was dissected from the testis

Bisector/dissector/disector

bisector	something that bisects	that divides into two parts
dissector	someone who dissects	an anatomist
disector	as in optical disector	a specialist term derived from di [two] and sector [section]

Bit/byte

bit a **binary digit (b)**
 1 bit has **2¹ (two)** possible values **0, 1**
 2 bits have **2² (four)** possible values **00, 01, 10, 11**
 n bits have **2ⁿ** possible patterns
 usually used for data transfer **speed** (bytes per second, b/s, bps)
 1 024 bps = 1 Kilobit/s (**Kbps**)
 1 024 Kbps = 1 Megabit/s (**Mbps**)
 1 024 Mbps = 1 Gigabit/s (**Gbps**)
 conversion to bytes
 8 Kbp ≈ 1 KBp 8 Mbp ≈ 1 MBp 8 Gbp ≈ 1 GBp

byte a group of **8 bits (B)**
 8 bits have **2⁸ (256)** possible values 00000000, 00000001, 00000010, 00000011... 11111110, 11111111
 usually used for data volume **storage** (bytes, B)
 2¹⁰ b = 1 024 bytes ≈ 1 000 (10³) bytes = 1 Kilobyte (**KB**)
 2²⁰ b = 1 048 576 bytes ≈ 1 000 000 (10⁶) bytes = 1 Megabyte (**MB**)
 2³⁰ b = 1 073 741 824 bytes ≈ 1 000 000 000 (10⁹) bytes = 1 Gigabyte (**GB**)
 conversion to bits
 1 KB ≈ 8 Kb 1 MB ≈ 8 Mb 1 GB ≈ 8 Gb

See: [Exponentiation/logarithms](#), [Prefixes for binary multipliers](#), [Prefixes for decimal multipliers](#)

Blame

to find fault with, to fix the responsibility on followed by the **object** Don't **blame** the **technician** for it

ALERT Check that **blame** is used correctly

Don't **blame** the lens scratches on the students

ERROR *Syntax*: this implies that the lens is being blamed

CORRECT by

moving the **object** after the verb and replacing **on by for**

Don't **blame the students for** the lens scratches

Blind/blind to/blinded/blindly

blind	adjective	unable to see	The blind patients stayed in the waiting room
blind to	adjective	unaware of	The assessors were blind to the treatment of the samples
blinded	past tense and past participle of the verb to blind		After so long in the dark, the bright light temporarily blinded them
blindly	adverb	unseeingly, without being able to see	The young animals were blindly following their mother
		unthinkingly, without understanding	The students were blindly following the wrong instructions

See: [Double-/single-blind](#)

ALERT Check the **meaning** when using **blind**, **blinded** or **blindly**

The slides were assessed by **blind/blinded** technicians

ERROR *Semantics*: blind or blinded technicians **are unable to see** anything

CORRECT by

omitting **blind/blinded** and inserting **blind to/unaware of the treatments**

The slides were assessed by technicians **blind to/unaware of treatments**

The slides were assessed in a **blind** manner

ERROR *Syntax*: a **manner** is **insentient and cannot** be blind

CORRECT by inserting a **human** element and replacing **blind** by

blind to and inserting **what** the technicians **were unaware of**

The slides were assessed by **technicians blind to** the treatments

Quality control was performed by having slides assessed **blindly** by the technicians

ERROR *Semantics*: this implies that the technicians made the assessments **without seeing or thinking**

CORRECT [if the assessment was made **without knowledge** of the treatments] by

omitting **blindly** and indicating **how** the treatments **were made inaccessible**

Quality control was performed by having **coded** slides assessed by the technicians

Quality control was performed by having slides **with covered labels** assessed by the technicians

Blood/plasma/serum

<i>blood</i>	whole blood, untreated blood, circulating in blood vessels	contains blood cells and fibrinogen
<i>plasma</i>	cell-free fluid obtained by centrifuging anticoagulant-treated blood	contains no cells (removed by centrifugation) but fibrinogen
<i>serum</i>	cell- and clot-free fluid obtained by centrifuging clotted blood	contains no cells or fibrinogen (present in the removed clot)

See: [Fluid/plasma](#)

Blood-epididymal/-epididymis barrier

blood-epididymis **blood-epididymis** is a hyphenated compound **noun** used as an adjunct
a barrier between the **blood** (noun) and the **epididymis** (noun)
[a barrier **of** the epididymis] The **blood-epididymis** barrier is an **epididymal** barrier

Blood-testicular/-testis barrier

blood-testis **blood-testis** is a hyphenated compound **noun** used as an adjunct
a barrier between the **blood** (noun) and the **testis** (noun)
[a barrier **of** the testis] The **blood-testis** barrier is a **testicular** barrier

Blood-vas deferens/-vas deferential barrier

blood-vas deferens **blood-vas deferens** is a hyphenated compound **noun** used as an adjunct
a barrier between the **blood** (noun) and the **vas deferens** (noun)
[a barrier **of** the vas deferens] The **blood-vas deferens** barrier is a **vas deferential** barrier

Bode

See: [Augur/bode/portend](#)

Boldly

See: [Position of adverbs](#)

Bona fide (Latin)

genuine, real Only **bona fide** members of the department may use the logo

ALERT Check that **bona fide** is the intended expression

This indicates that the **bona fide** protease that functions during fertilisation is not acrosin

ERROR *Semantics*: a **bona fide** is a genuine protease but the relationship to fertilisation is not addressed

CORRECT by omitting **bona fide**

This indicates that the protease that functions during fertilisation is not acrosin

Born/borne

<i>born</i>	adjective	given birth to	She was born on March 1, 1979
<i>borne</i>	verb	to bear children	She has borne you another son
		to carry items	The body was borne from the room on a stretcher
		to support ideas	His concept was borne out by this experiment
	adjective	carried by	Their infertility is due to air- borne pollutants and water- borne diseases

ALERT Check whether **an adjective is required** when **born** is used

One form of epi-genetic information is sperm **born** RNA

ERROR *Syntax*: RNA carried by spermatozoa is **borne** by it

CORRECT by **using borne** in a **hyphenated adjective**

One form of epi-genetic information is **sperm-borne** RNA

Both

adjective	quantitative adjective, specific quantitative determiner	Both proteins were detected by the antibody
adverb	applying equally well to each of two choices	It could be due both to similar epitopes and an impure antibody
pronoun	people/things, regarded and identified together	They both were responsible

NOTE *Overused word*: often used unnecessarily [**omit**]

ALERT Check that **both** does not introduce confusion

Both Ca²⁺ addition and cholesterol removal induce the acrosome reaction
 ERROR *Semantics*: ambiguous, **it is unclear** if Ca²⁺ has to be added and cholesterol removed simultaneously
 so **this could be interpreted as**
 only addition of Ca²⁺ **and** removal of cholesterol **together** induce the acrosome reaction [**both** referring to two **agents**]
 or
 addition of Ca²⁺ **or** removal of cholesterol **separately** induces the acrosome reaction [**both** referring to two **actions**]
 CORRECT [if the **former** is meant] by
omitting both and **inserting together**
 Ca²⁺ addition and cholesterol removal **together** induce the acrosome reaction
rewriting the sentence
The simultaneous addition of Ca²⁺ and **removal** of cholesterol induce the acrosome reaction
 CORRECT [if the **latter** is meant] by
rewriting the sentence by replacing **both... and** by **either... or**
Either addition of Ca²⁺ **or removal** of cholesterol **induces** the acrosome reaction

ALERT Check that **both is not** used with words *implying additional*

The ruling will affect **both** clinicians **as well as** basic researchers
 ERROR *Semantics*: ambiguous, **it is unclear** what **both refers to**, the clinicians alone, or them and the researchers
 so **this could be interpreted as** the ruling
 will affect **two** clinicians [and an unspecified number of basic researchers]
 or
 will affect **equally** clinicians and basic researchers [with unspecified numbers of either group]
 CORRECT [if the **former** is meant] by
replacing both by **the two**
 The ruling will affect **the two** clinicians **as well as** basic researchers
 CORRECT [if the **latter** is meant] by
omitting both
 The ruling will affect clinicians **as well as** researchers

The report indicated the existence of PRDX in **both** spermatozoa and seminal plasma
 ERROR *Semantics*: ambiguous
 so **this could be interpreted as** there being only **two** spermatozoa
 CORRECT [if there were **more** than two spermatozoa] by
omitting both
 The report indicated the existence of PRDX in spermatozoa and seminal plasma
replacing in both by both in
 The report indicated the existence of PRDX **both in** spermatozoa and seminal plasma

Both is/are
are **both** refers to **two** people/objects Regarding the hypotheses, **both are** valid

Both... is/are
are **both** refers to **two** people/objects **Both** hypotheses **are** valid

Both/both of
both emphasises each of **two** people/items **collectively** **Both** his parents **are** teachers [two parents]
 the group followed by a **plural verb**
 emphasises each of **two groups separately**
 the groups joined by a **conjunction**
both of emphasises each of **two** people/items **collectively** He insulted **both** his teachers **and** headmaster [several teachers]
 emphasises possessives **Both of his parents** are teachers [two parents]
 He insulted **both of his teachers and headmaster** [two teachers]
 The opinions of **both of them** [**not both of** their opinions]

See: [As well/as well as](#)

Both of... is/are
are **both of** refers to **two** people/objects **Both of** the hypotheses **are** valid

Both of them/their
both of them The award ward was given to **both of them**

ALERT Check that **both of their is not** used

Both of their opinions were taken into account
 ERROR *Semantics*: ambiguous, **it is unclear** what **both refers to**, the opinions or their holders
 so **this could be interpreted as**
 two people had at least one opinion
 or
 several people had **two opinions**
 CORRECT [if the **former** is meant] by
replacing both of their by both of them
 The opinions of **both of them** were taken into account
 CORRECT [if the **latter** is meant] by
replacing both of by each of

Each of their opinions were taken into account

Both... and

a discontinuous correlative conjunction, which links **two** similar grammatical equivalents

a **preposition after both** is **repeated after and** They went **both to** the right **and to** the left [both adverbial phrase **and** adverbial phrase]
a **preposition before both... and** is **not** repeated They went **to both** right **and** left [both adjective **and** adjective]

ALERT Check that grammatical equivalents are linked by **both...and**

You should **both** inform the Chief Editor **and** your Institute Director

ERROR *Syntax*: **and** is a coordinating conjunction, which **should link grammatical equivalents** but here links a **clause** (inform the Chief Editor) with a **noun** (Institute Director)

CORRECT by

moving both after the **verb**

You should inform **both** the Chief Editor **and** your Institute Director [both noun **and** noun]

inserting a verb to the second nouns

You should **both inform** the Chief Editor **and alert** your Institute Director [both clause **and** clause]

Both... and/either... or/neither... nor

<i>both... and</i>	for positive usage	with a positive verb	Sperm motility was affected by both quinine and verapamil
<i>either... or</i>	for negative usage	with a negative verb	Sperm motility was not affected by either quinine or verapamil
<i>neither... nor</i>	for negative usage	with a positive verb	Sperm motility was affected by neither quinine nor verapamil

See: [Either... or](#), [Neither... nor](#)

Both/each/either

<i>both</i>	the one as well as the other of two objects	takes the plural	Both students were awarded a prize Both ends of the laboratory have a fire door
<i>each</i>	every one of two or more objects considered separately	takes the singular	Each student was awarded a prize Each end of the laboratory has a fire door
<i>either</i>	each of two objects considered separately	takes the singular	Either end of the laboratory has a door

See: [All/each](#), Both, Each, [Each/either/neither](#), Either

ALERT Check the **meaning** when **both** is used

We were **both** awarded a poster prize

ERROR *Semantics*: ambiguous

so **this could be interpreted as**

we **each** received **a prize** [there were **two prizes**]
or

we **shared a prize** [there was **one prize**]

CORRECT [if the **former** is meant] by

replacing both by **each**

We were **each** awarded a poster prize

CORRECT [if the **latter** is meant] by

replacing both by **jointly** and the **indefinite** by the **definite** article

We were **jointly** awarded **the** poster prize

There is a laboratory on **both sides** of the corridor

ERROR *Semantics*: ambiguous

so **this could be interpreted as**

there **two** laboratories, one on each side of the corridor

or

one laboratory straddles the corridor

CORRECT [if the **former** is meant] by

replacing the singular by the **plural**

There **are laboratories** on **both sides** of the corridor

replacing the singular by the **plural** and **replacing both sides** by **either side**

There **are laboratories** on **either side** of the corridor

CORRECT [if the **latter** is meant] by

rewriting the sentence

The laboratory **opens** on **each side** of the corridor

He insulted **both** his supervisors and his colleagues

ERROR *Semantics*: ambiguous, **it is unclear** what **both refers to**, the supervisors alone or them and the colleagues

so **this could be interpreted as**

he insulted his **two** supervisors [and an unspecified number of colleagues]

or

he insulted **equally** his supervisors and his colleagues [with unspecified numbers of either group]

CORRECT [if the **former** is meant] by

replacing both his by **his two**

He insulted **his two** supervisors and his colleagues

CORRECT [if the **latter** is meant] by

omitting both

He insulted his supervisors and his colleagues

Both/each/either of

<i>both of</i>	each one of two people/objects considered together	takes the plural	Both of the methods are equally valid
<i>each of</i>	every one of two or more objects or people considered separately	takes the singular	Each of the methods is equally valid
<i>either of</i>	one or the other of two people/objects considered separately	takes the singular	Either of the methods is effective

See: [Both... and/either... or/neither... nor](#), [Both/either/neither of](#)

Both/each/either... of

<i>both... of</i>	each of only two items are considered, either... of	with plural noun	There were potted plants on both sides of the house
<i>each... of</i>	all of more than two items are considered	with singular noun	There were potted plants on each side of the house
<i>either... of</i>	each of only two sides are considered, both... of	with singular noun	There were potted plants on either side of the house

Both/either/neither of

<i>both of</i>	for positive usage	with a positive verb	It affects both of them
<i>either of</i>	for negative usage	with a negative verb	It does not affect either of them
<i>neither of</i>	for negative usage	with a positive verb	It affects neither of them

See: [Both... and/either... or/neither... nor](#), [Both/each/either of](#)

ALERT Check the **meaning** when **both** is used

Both solutions were **not** hot
ERROR *Semantics: ambiguous*
 so **this could be interpreted as**
both solutions were cold
 or
 only **one** solution was cold

CORRECT [if the **former** is meant] by
negating the subject, not the **adjective**

Neither solution was hot
CORRECT [if the **latter** is meant] by
rewriting the sentence
One of the solutions was hot

Both/either/neither

<i>both</i>	for positive usage	with a positive verb	Both parameters are affected by the treatment
<i>either</i>	for negative statements	with a negative verb	Ligation does not affect either parameter
<i>neither</i>	for negative statements	with a positive verb	Ligation affects neither parameter

Both/neither

<i>both</i>	for positive usage	with a positive verb	Both are affected by the treatment
<i>neither</i>	for negative usage	with a positive verb	Neither are affected by the treatment

Both last

Oxymoron: **both** implies there are **two** but there can be **only one superlative (last: nothing comes later)**

Bound

See: [Bind/bound](#)

Bounded

See: [Bind/bound](#)

Break down/breakdown

<i>break down</i>	phrasal verb	to cease to function to decompose, to undergo decomposition	The osmometer has broken down After a week the waste should be broken down
<i>breakdown</i>	noun	a failure in a system degradation or decomposition	The sterile work bench breakdown stopped our research for a week The breakdown of the nutrients dictates constant renewal of medium

Breeding/caging/mating

<i>breeding</i>	selective rearing of the offspring of a mating	implies that both sexes are fertile refers to a mating leading to pregnancy Homozygous knockout males were derived by breeding heterozygous males and females
<i>caging</i>	placing a male and female together in one cage for reproduction, cohabitation	caging may not lead to mating if either sex or both sexes are unable to mate To determine their fertility, ornidazole-treated male rats were caged with two virgin females
<i>mating</i>	placing a male and female together for reproduction; implies that the animals copulate	mating may not lead to pregnancy if either sex or both sexes are infertile To determine their fertility, ornidazole-treated male rats were allowed to mate with two virgin females

Brief/short

<i>brief</i>	of short duration concise in expression, using few words	He gave a brief speech Introductions were brief and polite
<i>short</i>	measuring a small distance from end to end of short duration, lasting a small amount of time	These animals have short fur They were visiting London for a short break

Briefly/shortly

briefly	for a short time, fleetingly using few words, concisely	She worked briefly as a technician As I briefly mentioned earlier, the exams are next week
shortly	in a short time, soon in a few words, briefly	The new database will shortly be available .They received a letter shortly outlining the proposals

Bring/take

bring	towards (from the point of view of) the receiver	Surgeon, upstairs, to me: Please, bring me my instruments I, downstairs: Yes, I shall bring them when I come up
take	away from (from the point of view of) the bringer	Nurse, downstairs, to me: Please take the surgeon's instruments to him I, downstairs: Yes, I shall take them with me when I go upstairs

Broadcast/broadcasted

broadcast	the present, past tense and past participle of the verb to broadcast
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Broadly

adjective	in summary and a regional accent
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ALERT Check which meaning of **broadly** is intended

Broadly **speaking**, the lecturer said that his hypothesis was new

ERROR *Semantics*: ambiguous

so **this could be interpreted as**

the **overall content** of what the lecturer said was that his hypothesis was new [broadly meaning *summarising*]
or

he spoke with a **broad** (difficult to understand, regional) **accent** [broadly describing the *pronunciation*]

CORRECT [if the **former** is meant] by

rewriting the sentence with a **phrase**

In summary the lecturer said that his hypothesis was new

CORRECT [if the **latter** is meant] by

rewriting the sentence with a **noun**

With an **accent** that was difficult to understand, the lecturer said that his hypothesis was new

Bulk/majority/most

bulk	most of	refers to mass nouns, mass and volume
majority	the greater number	refers to count objects, numbers
most	the greater or larger part of	refers to count and mass nouns, quantity and numbers

NOTE *Vague word*: be more exact and state the mass, volume, number, area, quantity, proportions or percentages

See: [Count/mass nouns](#)

Bulk is/are

is	bulk of is only used for mass nouns	for mass	Of the work the bulk is over
		for volume	Of the fluid the bulk is frozen

See: [Count/mass nouns](#)

Bulk of... is/are

is	bulk of is only used for mass nouns	for mass	The bulk of the work is over
		for volume	The bulk of the fluid is frozen

See: [Count/mass nouns](#)

But

adverb	no more than, only	He's worked in several areas; epididymis, infertility and sperm function, to name but a few
preposition	apart from, except, other than used with the objective	Everyone but him had arrived [Everyone (with the exception of him) had arrived] Nobody knew but her [Nobody (with the exception of her) knew] I hope that the loser is anyone but me [I hope the loser is anyone (with the exception of me)] yet at the same time, yet nevertheless
conjunction	adversative, coordinating contrasts grammatical equivalents	The method is time-consuming but cheap [adjective but adjective] I work quickly but accurately [adverb but adverb] He was in hospital but in good health [phrase but phrase] The cleaners sweep the floors but the scientists sterilise the bench tops [clause but clause]

See: [All but](#), [Any thing/anything/anything but](#), [Conjunctions](#), [Implied meanings of sentences](#), [Relative clauses](#), [Yet](#)

ALERT Check that clauses of equal importance contrasted by **but** are **separated by a comma**

The monkeys were given fresh fruit **but** no water was given to the rats
ERROR *Syntax*: the reader **may initially think** that the **monkeys** received no water
and then **realises otherwise** [the **rats** received no water]

CORRECT [where there would otherwise be confusion] by

separating clauses of equal importance **with a comma**

The monkeys were given fresh fruit, **but** no water was given to the rats [clause, **but** clause]

inverting the order of the second clause **with no comma**

The monkeys were given fresh fruit **but** the rats were given no water [clause **but** clause]

ALERT Check that **but is not** used for clearly **contrasting items**

It was **only measured** in rats **but** not in mice

ERROR *Tautology*: as both **only** and **but** indicate that clauses are contrasted, one word is **superfluous**

CORRECT by **using one or the other**, not both, by

omitting only

It was measured in rats **but** not in mice

replacing but by a **comma**

It was **only** measured in rats, not in mice

omitting but not in mice

It was **only** measured in rats

But/however

but as a conjunction contrasting two grammatical equivalents The treatment is effective **but** expensive

however as a conjunction introducing a contrasting statement The treatment is effective; **however**, it is expensive

See: [How ever/however](#)

ALERT Check that **but is not** used with words **implying a contrast**

The Director is unpleasant **but** the technicians, **however**, are always hard-working

ERROR *Tautology*: as both **but** and **however** are conjunctions and **indicate a change** or contrast, one word is **superfluous**

CORRECT by **using one or the other**, not both, by

omitting, however,

The Director is unpleasant **but** the technicians are always hard-working

replacing but by a **semicolon**

The Director is unpleasant; the technicians, **however**, are always hard-working

The Director is unpleasant; **however**, the technicians are always hard-working

But nevertheless/nevertheless

but nevertheless as **nevertheless** is a **conjunction**, it needs no additional **conjunction (but)** to precede it
permissible for **emphasis**, if separated by a comma It was not recommended, **but nevertheless** he did it

nevertheless conjunction It was not recommended, **nevertheless** he did it

ALERT Check whether two conjunctions are necessary with **nevertheless**

It was a good experiment **but nevertheless** would cost too much

ERROR *Tautology*: as **nevertheless** is a **conjunction**, it **needs no** additional **conjunction (but)** before it

CORRECT [if **no** emphasis is required] by

replacing but by a **semicolon**

It was a good experiment; **nevertheless** it would cost too much

But nor/nor

but nor as **nor** means **and not**, it **needs no** additional **conjunction (but)** before it
permissible for **emphasis**, if separated by a comma She dare not criticise him, **but nor** dare he

nor conjunction She dare not criticise him, **nor** dare he

See: [Nor](#)

But that

almost always needs a parallel **that** preceding the **but**

The publication **that** was his third that year, **but that** was his shortest, increased his Impact Factor

See: [Relative clauses](#), [That clauses](#)

But that/that

but that other than that, except that There is no question **but that** the theory is correct
(There is **no conclusion other than** the theory is correct) [the theory is **correct**]

that conjunction There is no question **that** the theory is correct
(It is **out of the question** that the theory is correct) [the theory is **incorrect**]

See: [No doubt/question/question but](#), [That](#)

But which

almost always needs a parallel **which** preceding the **but**

The publication, **which** was his third that year, **but which** was not awarded a prize, was a citation classic

See: [Relative clauses](#), [Which clauses](#)

But who

almost always needs a parallel **who** preceding the **but**

The student, **who** was in his third year, **but who** was thought to be leaving the University, decided to stay

See: [Relative clauses, Who/whom](#)

By

See: [At/by that time](#), [At/by the rate of](#), [By/by the use of/by using/using](#)

By/by the use of/by using/using

by	preposition		The images were captured by video-cameras
by the use of	prepositional phrase	which can define a verb	The students observed the monkeys by the use of video-cameras
by using	gerundial phrase	which can define a verb	The students observed the monkeys by using video-cameras
using	participle (verbal adjective)	which can define a noun, pronoun	Using video-cameras, the students observed the monkeys

See: [By/with](#), [By/with the use of](#), [Using](#)

ALERT Check that **by** relates to objects **capable of performing** some action

The *post hoc* statistical comparisons were done **by** the Holm-Sidak method

ERROR *Syntax*: the **Holm-Sidak method** is **insentient and cannot** perform tests

CORRECT **by**

replacing *by* with *with*

The *post hoc* statistical comparisons were done **with** the Holm-Sidak method

replacing *by* with *by the use of*

The *post hoc* statistical comparisons were made **by the use of** the Holm-Sidak test

replacing *by* with *by using*

The *post hoc* statistical comparisons were done **by using** the Holm-Sidak method

ALERT Check the **meaning** if **using** follows a **noun**

The students observed the **monkeys using** video-cameras

ERROR *Semantics*: **using** is a participle (verbal adjective) and **monkeys** is the nearest noun it can complement
so this implies that the **monkeys** were using video-cameras

CORRECT [if the **students** were using video-cameras] **by**

replacing *using* with *by using*

The students observed the monkeys **by using** video-cameras

replacing *using* with *by the use of*

The students observed the monkeys **by the use of** video-cameras

ALERT Check the **meaning** if **using** follows a **passive verb**

The monkeys **were observed using** video-cameras

ERROR *Semantics*: **using** is a participle (verbal adjective) and **monkeys** is the nearest noun it can complement
so this implies that the **monkeys** were using video-cameras

CORRECT [if the **observers** were using video-cameras] **by**

replacing *using* with *by using*

The monkeys were observed **by using** video-cameras

replacing *using* with *by the use of*

The monkeys were observed **by the use of** video-cameras

By/in contrast

by contrast	used to indicate a difference	Jones et al, by contrast , used vigorous vortexing to remove the membranes
in contrast	used to indicate a difference	In contrast to Jones et al, we found detergents to be more effective than vortexing

By/of

by	used for a mediator/donor	Oocytes are fertilised by spermatozoa
of	used for a recipient	Spermatozoa are responsible for the fertilisation of oocytes

ALERT Check that **of** is the **intended preposition**

Acrosin is essential for the penetration **of** spermatozoa

ERROR *Semantics*: this implies that spermatozoa are penetrated

CORRECT [if the **spermatozoa** are penetrating an oocyte] **by**

inserting an object and a preposition

Acrosin is essential for the penetration **of oocytes by** spermatozoa

Acrosin is essential for **oocyte** penetration **by** spermatozoa

By/on

by	movement by mechanised transport	We went by bike, by bus, by car, by train, by plane and by ferry to the islands
on	transport-free movement	We went on foot to the shops

By/to

by	the amount or size of a margin from a specific amount to another	The testosterone concentration fell by 20 ng/ml The testosterone concentration fell by 80 ng/ml	(e.g. from 100 ng/ml to 80 ng/ml) (e.g. from 100 ng/ml to 20 ng/ml)
to	approaching a particular condition	The testosterone concentration fell to 20 ng/ml	(e.g. from 100)

See: [Between... and.../from... to...](#)

By/until

by	relates to a specific time after an intervening period	The proofs are required by Sunday
until	relates to a period of time, a duration	You have until Sunday to hand in the proofs

See: [Ago/by/since](#), [Till/'till/'til/until](#), [Until](#), [Until/up to now](#)

By/with

by	for a chemical	<i>myo</i> -Inositol was replaced by mannitol
	for a method	The slides were examined by microscopy
with	for a chemical	<i>myo</i> -Inositol was replaced with mannitol
	for equipment	The slides were examined with a microscope

See: [By/by the use of/by using/using](#), [By/with the use of](#)

By/with the use of

by the use of	for a method	The slides were examined by the use of microscopy
with the use of	for equipment	The slides were examined with the use of a microscope

See: [By/by the use of/by using/using](#)

By assuming/on the assumption of

by assuming	gerundial phrase	can define a verb	The income from the meeting was calculated by assuming 90% attendance
on the assumption of	prepositional phrase	can define a verb	The subscriptions were calculated on the assumption of 90% attendance

See: [Assuming/by assuming](#)

ALERT Check the **meaning** if **assuming** follows a **passive verb**

The subscriptions were calculated **assuming** 90% attendance

ERROR **Syntax:** **assuming** is a participle (verbal adjective), which should define a noun, but here is used to define a **verb**

CORRECT by

replacing **assuming** with **by assuming**

The subscriptions were calculated **by assuming** 90% attendance

replacing **assuming** by **on the assumption of**

The subscriptions were calculated **on the assumption of** 90% attendance

inverting the sentence and **providing a subject** for it to define

Assuming 90% attendance **we** calculated the subscriptions

rewriting the sentence with a **human element**

We assumed 90% attendance for calculation of the subscriptions

By following/following

by following	gerundial phrase	can define a verb	The animals were killed by following guidelines for the ethical animal treatment
following	preposition	a definite sequence of events	The testes were removed following sterilisation of the scrotal skin

See: [After/following](#), [Following](#)

ALERT Ensure that **following** **does not** introduce confusion

The animals were killed **following** the guidelines for the ethical treatment of animals

ERROR **Semantics:** ambiguous, **following** as a preposition relates to the guidelines as the nearest noun it can complement **so this implies** that the **guidelines** were killed before the animals were

CORRECT [if the **killing procedure** was performed according to the guidelines] by

using a gerundial phrase

The animals were killed **by following** the guidelines for the ethical treatment of animals

By means of

Synonyms: by, via, with

See: [Using](#)

By that time

See: [At/by that time](#)

By the rate of

See: [At/by the rate of](#)

By way of/via (Latin)

by way of	travelling to a place en route to another, via	They came to Hong Kong from Germany by way of Nanjing
via	by way of	They came to Hong Kong from Germany via Nanjing
	by means of	He sent the file via electronic mail

Byte

See: [Bit/byte](#)

c. (ca., cca., cir.) (Latin)

abbreviation of **circa** (about) approximately, of the order of The cyst held **c./ca./cca./cir.** 120 ml fluid

See: [About/some](#), [Approximately/approximately equal to](#)

ALERT Check that **circa** does not relate to something exact

The length of the sperm tail was **circa** 41.5 µm

ERROR *Oxymoron*: **circa** means **about** but 41.5 µm is an **exact** measurement (to 1 decimal place)

CORRECT by

omitting circa

The length of the sperm tail was 41.5 µm

rounding to an **approximate value**

The length of the sperm tail was **circa 40** µm

ca.

See: [c.](#) ([ca.](#), [cca.](#), [cir.](#))

Caging

See: [Breeding/caging/mating](#)

Calculate

to decide, to work out

Calculations of the yield were performed

Style: verbosity, can be shortened: replace by **the yield was calculated**

Can

a **non-modal auxiliary verb** followed by the **base infinitive**

for **all** persons, singular/plural

active voice to be able or capable of doing something
for statements (present tense of could)

He **can inject** the animals this year

[whether he did so or not]

The wires **can** support the sheet

[**are strong enough** for support]

for politeness

Can you **show** me where the culture room is?

(you believe that they know where it is)

[less formal than **could**]

passive voice is possible to

The sheet **can** be supported by the wires

[but **does not have to** be]

See: [Active/passive voice](#), [Auxiliary verbs](#), [Could](#), [Moods of verbs](#)

Can/could

can for politeness

in direct speech

simple future tense

future perfect tense

Can you **show** me where the culture room is?

[less formal than **could**]

"I **can** do it tomorrow"

"He **can't** have finished it by now!"

could for politeness

in indirect speech

future-in-the-past

future perfect-in-the-past

Could you **show** me where the culture room is?

[more formal than **can**]

I said I **could** do it tomorrow

He said he **couldn't** have finished it by then

See: [Can](#), [Could](#)

Can not/cannot/can't

cannot negative of **can**

(formal) more common

She **cannot** be held responsible for the failure of her supervisor

can not negative of **can**

(formal) for emphasis

No, she **can not** be held responsible for the failure of her supervisor

occurs when **can** is used with **not only... but also...**

He **can not only** perform surgery **but also** design computer programs

can't contraction of **can not**

(informal) **layman** terminology

He **can't** do it

See: [Do not/don't](#), [Does not/doesn't](#)

Can't wait (idiom)

contraction of **cannot wait**

to be impatient for

I **can't wait** to graduate and get a job

See: Cliché/idiom/proverb, Wait

ALERT Check that the meaning of **can't wait** is clear

The deluge is imminent and we **can't wait** for it to sweep us away

ERROR *Semantics*: ambiguous, it is **unclear** which meaning of **wait** is intended

so **this could be interpreted as**

we are **impatient** for the deluge to occur

[**can't wait** meaning we **do not want** to wait]

or

we should **take action to escape from** the deluge

[**can't wait** meaning we **cannot afford to/should not** wait]

CORRECT [if the **former** is meant] by

replacing can't wait by **are impatient for**

The deluge is imminent and we **are impatient for** it to sweep us away

CORRECT [if the **latter** is meant] by

replacing and by **but** and **can't** by **must not**

The deluge is imminent **but** we **must not wait** for it to sweep us away

Cannon/canon

<i>cannon</i>	a large, heavy piece of artillery, typically mounted on wheels formerly used in warfare with cannon balls now used in crowd control with water	They retreated under cover of defending cannons The rampaging student were pushed back with water cannon
<i>canon</i>	a general law, rule, principle, or criterion by which something is judged a member of the clergy who is on the staff of a cathedral	This research violates all the canons of a scientific thesis The new dean of the Theology department is Canon Blythe

Canonical/conventional

<i>canonical</i>	accepted as being accurate, authentic and authoritative; generally accepted means does not mean conventional, anticipated	The miRNA interferes with the canonical Wnt/ β -catenin signalling pathway
<i>conventional</i>	based on, in accordance with, what is generally believed	The conventional limits are the 5 th and 95 th centiles

Capable

See: [Able to/capable of](#)

Capacitation/capacitate/capacitated

<i>capacitation</i>	noun	a process referred to in general needs no article as noun adjunct a specific process requires the definite article	Capacitation was complete after a three hour incubation The capacitation process takes three hours [a process occurring to spermatozoa] A23187 and Ca ²⁺ capacitate spermatozoa effectively Capacitated cells were assessed with fluorescence dyes
<i>capacitate</i>	verb	transitive verb	
<i>capacitated</i>	adjective	the state after capacitation	

See: [Definite/indefinite/no article](#), [Determiners](#)

ALERT Check that **capacitate** **is not** used as an intransitive verb

The zona-free hamster egg penetration assay is a bio-assay that evaluates the ability of spermatozoa **to capacitate**

ERROR Syntax: capacitate is not an intransitive verb

CORRECT by

replacing to capacitate by to undergo followed by a **noun**

The zona-free hamster egg penetration assay is a bio-assay that evaluates the ability of spermatozoa **to undergo capacitation**

replacing to capacitate by to become followed by an **adjective**

The zona-free hamster egg penetration assay is a bio-assay that evaluates the ability of spermatozoa **to become capacitated**

Capita/caudae/corpora (Latin plural)

<i>capita</i>	heads	capita epididymidum	(heads of the epididymides)
<i>caudae</i>	tails	caudae epididymidum	(tails of the epididymides)
<i>corpora</i>	bodies	corpora epididymidum	(bodies of the epididymides)

NOTE **do not** combine English with **Latin** [**caudae** of the **epididymides**]

See: [Caput/cauda/corpus](#), [Epididymidis/epididymis](#)

Capitalisation of letters

See: [Abbreviation/acronym/contraction/initialism](#), [Common/proper nouns](#), [Gene/protein symbol nomenclature](#), [Grammar/style](#), [Lower/upper case](#), [Sentences](#)

Caput/cauda/corpus (Latin singular)

<i>caput</i>	head	caput epididymidis	(head of the epididymis)
<i>cauda</i>	tail	cauda epididymidis	(tail of the epididymis)
<i>corpus</i>	body	corpus epididymidis	(body of the epididymis)

NOTE **do not** combine English with **Latin** [**caput** of the **epididymis**]

See: [Capita/caudae/corpora](#), [Epididymidis/epididymis](#)

ALERT Check that only **one language** is used in a phrase

Most spermatozoa were recovered from the **caput** of the **epididymis**

ERROR Syntax: caput is **Latin**, of the epididymis is **English**

CORRECT by

replacing caput by head

Most spermatozoa were recovered from the **head** of the **epididymis**

using the Latin singular genitive declension of epididymis

Most spermatozoa were recovered from the **caput epididymidis**

Cardinal/ordinal numbers

<i>cardinal</i>	used for counting numbers (natural numbers/ positive integers with zero) non-negative integers usually written as words	0 zero	1 one	2 two	3 three	4... four...
<i>ordinal</i>	used for ranking numbers designating position, place or order related to cardinal numbers written as words as superscripted numbers	1 first 1 st	2 second 2 nd	3 third 3 rd	4... fourth... 4 th ...	

in **grammar** function as adjectives

The **second** poster (Poster number 2)

The **13th** chromosome (Chromosome no. 13)

adverbs

He wrote the Introduction **first**, the Methods **second**, the Discussion **third**

See: [Counting/denominate/measurement numbers](#), [Integers](#), [Numbers written as words and figures](#)

Care less

See: [Could/couldn't care less](#)

Carelessly

adverb used to describe

verbs or verbal phrases placed **after** the **verb**

She **picked up** the surgical instruments **carelessly**

[The **manner** of picking up the instruments is described]

placed **before** the **verb**

She **carelessly picked up** the surgical instruments

[**That** she picked up the instruments at all is described]

whole clauses

placed at the **beginning** of the sentence

Carelessly, she **picked up** the surgical instruments

Carry out

verb followed by a **preposition** to move something away from somewhere
phrasal verb to perform a task

The instruments to be repaired were **carried out** into the yard

He **carried out** the assay in the cold room

NOTE *Overused words*: often used unnecessarily, replace by **what was carried out** [or omit]

ALERT Check whether **carried out** should be replaced by a **more relevant word**

Lamp alignment **checks** were **carried out** on the spectrophotometer

STYLE *Verbosity*: can be shortened

CHANGE by **omitting carried out** and

replacing the **noun** by its related **verb**

The spectrophotometer **was checked** for lamp alignment

Case

an instance of a particular situation; an example of something occurring

in grammar an inflection of a word

NOTE *Overused word*: often used unnecessarily, use a more specific word explaining **what the case is** [or omit]

See: [Cases of nouns and pronouns](#)

Cast/casted

cast the present, past tense and past participle of the verb to cast

Castrate/castrated

castrate noun a castrated animal

The **castrate** did not exhibit normal mating behaviour

castrated adjective (past participle of to castrate) having had its gonads removed

The animal was surgically **castrated**

ALERT Check that **castrate** **is not** used as an **adjective**

Testosterone was injected into the **castrate** males

ERROR *Syntax*: **castrate** is a **noun** **not** an **adjective**

CORRECT by

replacing castrate by **castrated**

Testosterone was injected into the **castrated** males

replacing castrate males by **male castrates**

Testosterone was injected into the male **castrates**

Castrate/castration-resistant

castration-resistant being resistant to the effects of **castration**

His was a **castration-resistant** prostatic cancer

castrate-resistant this means being resistant to a **castrate** (a castrated animal)

Casuist

a person using clever but unsound reasoning, especially in relation to moral questions; a sophist

Casuistic/sophistry

casuistic adjective clever but unsound

His reasoning was **casuistic** to the point of silliness

sophistry noun the use of clever but false arguments, often to deceive

Arguing that his evidence was convincing was pure **sophistry**

CAT/CT

CAT computed axial tomography **former** terminology for computed tomography

CT computed tomography non-invasive diagnostic imaging procedure

combining X-rays and computer technology to produce horizontal (axial), images (slices) of objects

Categorical/categorical/categorically

categorical adjective relating to categories

A **categorical** distinction is made when items are assigned to categories

categorical adjective not hypothetical, not conditional

He made a **categorical** denial of the accusation of plagiarism

categorically adverb without provisos or reservations

He **categorically** denied the accusation of plagiarism

Category

a class of items regarded as having particular shared characteristics

You'll need to apply for one of the **categories** of research done here

	categories	A	B	C	D
divisions between classes should	not overlap	1–25%	26–50%	51–75%	76–100%
		1–24%	25–49%	50–74%	75–100%
	not	1–25%	25–50%	50–75%	75–100%

since values of 25, 50 and 75% could go into each of two categories, A/B, B/C and C/D, respectively.

Caudad/cephalad (Latin)

<i>caudad</i>	towards the tail	Winter pelage comes in first on the rump and spreads caudad and ventrad
<i>cephalad</i>	towards the head	During diastole, blood fills the veins and moves cephalad with each heartbeat

Causal analysis

See: [Establishing cause and effect](#)

Causality/causation/causative/causing

<i>causality</i>	noun	the relationship between cause and effect	A strong relationship is not proof of causality
<i>causation</i>	noun	the process of causing something	The role of ROS in the causation of cancer is unclear
<i>causative</i>	adjective	acting as a cause	ROS are the causative agents for this cancer
	verb	with an object as the subject of a second verb	
<i>causing</i>	gerund	giving rise to	Causing cancer is often attributed to ROS
	present participle	making something happen	One suggested role of ROS, causing cancer, has yet to be proved

See: [Causative/complex transitive verbs](#)

Causative/complex transitive verbs**causative verbs**

link their **objects** to the action of second **verb** as

full infinitive	The rejection caused him to rewrite the Discussion
	This enabled her to enter university
	They forced us to work on Saturdays
	She'll get him to do it
	This observation permits us to conclude that transcription factors are involved
	They required her to wear her own face mask
base infinitive	I'll have him clean up after work
	Let her stay on to finish it
	She made him clean up the mess

complex transitive (factive) verbs

link an **object** with an **object complement** of

an adjective	We found his behaviour unacceptable
an adjectival phrase	She deemed him a person of high quality
a noun	They elected him president of the committee

See: [Complements of verbs](#), [Intransitive/transitive verbs](#)

Caused by

See: [Because of/caused by](#), [Due/owing to](#)

Caveat

a warning or proviso of specific stipulations, conditions or limitations There are a number of **caveats** concerning the validity of the assessment

Caveat emptor/lector (Latin)

<i>caveat emptor</i>	let the buyer beware
<i>caveat lector</i>	let the reader be aware

cca.

See: [c. \(ca., cca., cir.\)](#)

CE

See: [AD/BC/BCE/CE](#)

Cease

Synonyms: to desist, to end, to finish, to refrain from, to stop

does not mean to quit

See: [Quit/stop](#)

Centile/percentile

centile	one of 100 equal divisions into which a population can be divided
	the value of the centile below or above which a certain percentage of observations fall
	5% of values fall below the 5th centile
	5% of values lie above the 95th centile
	a range of centiles that includes a certain percentage of observations
	The interval between the 5th and 95th centiles includes 90% of the data
percentile	confusion with percentage

as **centile** means **of** divisions of 100, there is **no need** for an **additional** prefix (**per**) before it

See: [Fraction/percentage/proportion/ratio](#), [Interval/range](#), [Quantile](#)

Centre/middle

<i>centre</i>	of space only	in the centre of the floor (exactly midway between its ends)
<i>middle</i>	of space	in the middle of the floor (somewhere around the centre)
	of time	in the middle of the night (somewhere around the centre)

See: [Among/amongst](#)

Centred around/on/in

centred on The research project is **centred on** the epididymis of the shark

Centrifugal/centripetal force

<i>centrifugal force</i>	the force acting away from the centre of rotation
<i>centripetal force</i>	the equal but opposite of centrifugal force acting towards the centre of rotation

See: [RCF/rpm](#)

Centrifugate/centrifuge

centrifuge to rotate samples rapidly to exert centrifugal force on them

See: [Back-formation](#), [Centrifuge](#)

Centrifugated/centrifuged

centrifuged past participle of the verb to centrifuge

See: [Back-formation](#)

Centrifugation of semen was performed

Style: verbosity, can be shortened: replace by **the semen was centrifuged**

Centrifuge

noun	equipment	a device that submits samples to centrifugation	We bought a new centrifuge for the laboratory
verb	an action	to rotate samples rapidly to exert centrifugal force on them	Centrifuge the samples to produce a clear supernatant
			The sperm suspension were centrifuged for 5 min at 16,000g

Centrifuging

non-finite forms of the verb to centrifuge
a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Gerunds/participles](#)

ALERT Check that **centrifuging** has a **relevant noun** to qualify

After **centrifuging** the solution, the supernatants were concentrated by freeze-drying

ERROR *Semantics:* **centrifuging** is a participle (verbal adjective) and **supernatants** is the nearest noun it can complement
so this implies that the **supernatants** operated the centrifuge

CORRECT by

replacing **centrifuging** by **centrifugation of**

After **centrifugation of** the solution, the supernatants were concentrated by freeze-drying

inserting a **human element**

After **centrifuging** the solution, **we** concentrated the supernatants by freeze-drying

Cephalad (Latin)

See: [Caudad/cephalad](#)

Certainly/surely

certainly emphasises the belief that what is said or written is true

It is **certainly** the case that as more students graduate, their quality declines
[more definite than **surely**]

indicates that a statement is contrasted with another
expresses complete agreement with something

These results are **certainly** at variance with those obtained in rats
I **certainly** agree that this needs to be examined

surely emphasises the belief that what is said or written is true

It is **surely** the case that as more students graduate, their quality declines
[more hesitant than **certainly**]

with assurance or confidence
without doubt

The institute will move rapidly and **surely** in this research direction
If the animal does not receive antibiotics soon, it will **surely** die

NOTE the use of **surely** inserts an element of **persuasion** or **pleading** that invites **scepticism** about the comments

NOTE *Overused word:* often used unnecessarily [omit]

ALERT Check whether the use of **surely** is necessary

Table 1 **surely** indicates a decline in the ipsilateral epididymal weight

STYLE *Word usage:* if it is obvious, there is **no need** to point it out

CHANGE by **omitting surely**

Table 1 indicates a decline in the ipsilateral epididymal weight

Certainty/uncertainty

certainty is **implied** when the evidence is

strong for a conclusion to drawn from it

indicated by verbs such as conclude demonstrate determine establish indicate
prove reveal show

just sufficient for a conclusion to be drawn from it

indicated by verbs such as conceive conclude consider hypothesise postulate
presume propose speculate surmise

such verbs are **only** followed by a verb

in the **declarative** mood It has been **demonstrated that** the cells **are** androgen-dependent

It is **surmised that** the cells **swell** in this medium

uncertainty is **implied** when the evidence is

too weak for a conclusion to be drawn from it

indicated by words such as assume believe hint may might
possible probable suggest suppose

such verbs **may** be followed by a verb

in the **declarative** mood It is **assumed that** these cells **are** dead [quite certain]

in a **conditional** mood It is **believed that** these cells **could play** a role in tumourigenesis [less certain]

See: [Hypothesis/idea/theory](#)

ALERT Check that **possible is not** used with words **reflecting uncertainty**

It is **possible** that she **may** decide to attend the seminar

ERROR *Tautology*: as both **possible** and **may** imply **uncertainty**, one word is **superfluous**

CORRECT by **using one or the other**, not both, by

replacing may by **will**

It is **possible** that she will decide to attend the seminar

omitting it is possible that

She **may** decide to attend the seminar

Certify

to attest or confirm in a formal statement The accounts were **certified** by the auditors

cf./q.v. (Latin)

cf. abbreviation of **confer** (compare with) but compare this with

directs the reader to similar work in **another source**

The results mirror those from other techniques (**cf.** Jones 1976; Hinton 1989)

q.v. abbreviation of **quod vide, quae vide** which see, on this matter see, on these matters see

directs the reader to another part of the **same article**

The methods are described in detail in Section VI (**q.v.**)

See: [Ibid./id.](#), [loc. cit./op. cit.](#), [sc./viz.](#), [Vide/vide infra/supra](#)

Chance/coincidence

chance the unpredictability causing one result rather than another The results may merely be due to **chance**

coincidence a concurrence of two or more events by chance It was **coincidence** that we both wore blue striped shirts with floral ties

Change/differ

change verb to make or to become different Increasing the temperature **changed** the swimming speed of spermatozoa

noun an act through which something becomes different The **change** in temperature increased the swimming speed of spermatozoa

differ verb to be unlike or dissimilar The swimming speeds of spermatozoa at the two temperatures **differed**

NOTE *Vague words*: often used unnecessarily, replace by **what type of change or difference** is meant [or omit]

See: [Differ/diverge/vary](#)

ALERT Check whether **change** should be **replaced** by a **more relevant word**

Semen quality **changed** with altitude

ERROR *Semantics*: this implies that the same donors moved to different altitudes to provide samples

CORRECT [if different donors provided samples at the **different locations**] by

replacing change by **differ**

Semen quality **differed** with altitude

The sperm motility **changed** after treatment

STYLE *Semantics*: **uninformative** as the nature of the change is not given

CHANGE by **being more specific**

The sperm motility **increased/decreased** after treatment

A **change** in sperm motility was observed after treatment

STYLE *Semantics*: **uninformative** as the nature of the change is not given

CHANGE by

being more specific

An **increase/a decrease** in sperm motility was observed after treatment

rewriting the sentence

Sperm motility **increased/decreased** after treatment

Character

the mental and moral qualities distinctive to an individual
the basic or inherent features, nature or qualities of something

Refusing to proofread it was not in his **character**
He performed acts of a hostile **character**

NOTE *Overused word*: often used unnecessarily [**omit**]

ALERT Check whether **character** is necessary

He displayed acts of a hostile **character**

STYLE *Verbosity*: can be shortened

CHANGE by **rewriting the sentence** and **omitting hostile**
He displayed **hostile** acts

Characteristic for/of

characteristic of High vascularity is **characteristic of** the epididymal initial segment

Cheap/dear/expensive

cheap of a low price or cost

dear of a high price or cost

expensive of a high price or cost

See: [Cost/price](#)

ALERT Check that both **cheap/expensive** and **cost/price** are not used in the same sentence

That centrifuge has an **expensive price**

ERROR *Pleonasm*: **expensive** means of **high price** or cost

CORRECT by using **one or the other**, not both, by
replacing an expensive by **a high**

That centrifuge has a **high price**

replacing has an expensive price by **is expensive**

That centrifuge is **expensive**

This medium has a **cheaper cost**

ERROR *Pleonasm*: **cheap** means of **low cost** or price

CORRECT by using **one or the other**, not both, by
replacing cheaper by **lower**

This medium has a **lower cost**

omitting cost and **replacing has a** by **is**

That centrifuge is **cheaper**

Cheap price

Pleonasm: as **cheap** means of low **price**, use **cheap** or **low price**

Check/confirm/validate/verify

check to examine in order to determine

the presence of something

the accuracy, quality or condition of something

confirm to **establish** the correctness of something

implies the correct answer **is known**

by using **the same** methodology

by using **different** methods

validate to demonstrate factual correctness on an authoritative basis

to make a document legally valid

to prove officially that something is correct or true

to state officially that something is of a certain standard

verify to **provide substantial evidence** for that something is correct, to testify

implies that the correct answer **is not** known

further work is needed to prove it

This is a simple blood test to **check** for anaemia

His idea was **checked** by incubating the cells with quinine

We repeated the experimental protocols and **confirmed** the results

Western blotting confirmed the protein increase indicated by **mRNA analysis**

All equipment should be regularly **validated** for accuracy

The Dean **validated** my certificate of attendance

The evidence does **validate** his claim

All courses are **validated** by the University

Absence of the wild-type gene was also **verified** by PCR

ALERT Check that **check** is used correctly

All technicians assess QC slides daily, and their accuracy and reproducibility are regularly **checked**

ERROR *Semantics*: being **checked** indicates that QC tests are used but the test **results** are important

CORRECT by [if inter-technician agreement is **acceptable**] by

replacing checked by **proven**

All technicians assess QC slides daily, and their accuracy and reproducibility are regularly **proven**

rewriting the sentence by **describing their QC performance**

All technicians assess QC slides daily, and their **performance is regularly shown to be consistent**

ALERT Check that **confirm** is used correctly

To **confirm** this hypothesis, spermatozoa were incubated with the egg membrane

ERROR *Semantics*: a **hypothesis is not** a truth to be confirmed but a proposal to be supported by evidence
 CORRECT by **replacing confirm** by **verbs implying the provision of evidence**
 To **check/investigate/verify/test** this hypothesis spermatozoa, were incubated with the egg membrane

ALERT Check that **validate** is used correctly

Nine up-regulated proteins were identified and all were **validated** in western blots to be increased in the aged epididymis
 ERROR *Syntax*: **validation** proves a truth, but an increase is only an observation
 CORRECT [if the western blots provide **additional** information to the upregulation] by
replacing validate by **show**
 Nine up-regulated proteins were identified and all were **shown** in western blots to be increased in the aged epididymis
 CORRECT [if the western blot results **confirm** an increase shown by another method] by
replacing validate by **confirm**
 Nine up-regulated proteins were identified and all were **confirmed** in western blots to be increased in the aged epididymis

ALERT Check that **verify** is the correct word to use

The sensitivity and specificity of the antisera were **verified** by Western blot analysis
 ERROR *Semantics*: no true statement to be **verified** is given
 CORRECT by **replacing verified** by **determined**
 The sensitivity and specificity of the antisera were **determined** by Western blot analysis

The negative correlation between DFI and implantation rates after ICSI was not **verified** after IVF
 ERROR *Syntax*: no true statement to be **verified** is given
 CORRECT by **replacing verified** by **confirmed**
 The negative correlation between DFI and implantation rates after ICSI was not **confirmed** after IVF

Chemotherapeutic agent
 drug

Chi-square/-squared
chi-squared the **square** of chi (χ^2)

See: [Alphabet](#), [Cubed/squared](#)

Choice/dilemma
choice one of **three or more** possibilities or options He had a **choice of** Physiology, Biochemistry or Anatomy
 His **choice** was to study **Biochemistry** rather than **Physiology** or **Anatomy**
dilemma a situation with **two unsatisfactory** options He was faced with the **dilemma** of working **late Saturday** or **early Sunday**

See: [Alternative/choice/option/possibility](#), [Choose/opt/select](#)

Choice of punctuation
 the choice of punctuation may **alter the meaning** of words
 with a **comma** and **full stop** the comma separates a list of actions Don't guess, use a timer or watch. [**don't** applies to **all** verbs]
 with a **semicolon** and **full stop** the semicolon indicates alternatives Don't guess; use a timer or watch. [**don't** applies **only** to guess]
 with a **full stop** the full stop creates two sentences Don't guess. Use a timer or watch. [**don't** applies **only** to guess]

See: [Full stop/colon/semicolon](#), [Implied meanings of sentences](#), [Punctuation](#)

Choose/opt/select
choose to make a choice, to select an option followed by **from** He had to **choose from** Physiology, Biochemistry and Anatomy
 a **noun** He **chose** the best **CASA machine** for his purpose
 an **infinitive** He **chose to study** the epididymis
 a **gerund** After graduation she **chose studying** over working
opt to decide **in favour** of something followed by **for** He **opted for** the cheapest microscope
 a **noun** He **opted** for the **highest-ranking university**
 an **infinitive** She **opted to study the epididymis** rather than the testis
select to choose as the **most appropriate** followed by a **noun** She **selected** the **finest forceps** for the efferent duct dissection
 to **determine** if an organism or trait will survive (evolution) The most common phenotype can be **selected** against

ALERT Check that **select is not** followed by a non-finite verb

Of the forms present in the epididymis, we **selected** to analyse beta catenin 1
 ERROR *Syntax*: to **select is not** followed by an infinitive
 CORRECT by
replacing selected by **chose**
 Of the forms present in the epididymis, we **chose** to analyse beta catenin 1
moving the noun
 Of the forms present in the epididymis, we **selected beta catenin 1** to analyse

Chromosomal/chromosome
chromosomal adjective in or of the chromosomes The **chromosomal** micro-deletions studied included AZF
chromosome noun structure in cell nuclei carrying genetic information The gene of interest was located on **chromosome** number 11

See: [Chromosome/chromatid](#)

ALERT Check that **chromosome** *is not* used as an **adjective**

Chromosome deletions were determined
ERROR *Syntax*: chromosome is a **noun** *not* an **adjective**
CORRECT by
 replacing the **noun** by an **adjective**
Chromosomal deletions were determined
 rewriting *the sentence*
 Deletions **of the** chromosome were determined

Chromosome/chromatid chromosome

in **eukaryotes** consists of a linear **DNA** molecule associated with **proteins** [**chromatin**]
 the **double-stranded DNA** molecule is the **genetic material** of an organism
 comprises a **protein-coding sense strand** and a complementary **non-coding antisense strand**
 in **humans** chromosomes are
autosomes (body chromosomes) contain **most genetic** hereditary information
allosomes (sex chromosomes) **determine sex** of an individual [**XX** in females, **XY** in males]
 certain **genetic traits** are **sex-linked** and are passed on through the sex chromosomes
 most are **X-linked** haemophilia (reduced blood clotting)
 a few are **Y-linked** Swyers' disease (low sex hormones)
 the **ploidy** (N) of an organism is the **number of homologous versions** of a **chromosome**
humans have **23** chromosomes (**22** autosomes and **one** sex chromosome) N = 23
 each individual receives **two sets** of monoploid (**homologous**) chromosomes [**paternal** and **maternal**]
human somatic cells are **diploid**
 have **two** chromosome sets (a **pair** of 22 autosomes and a **pair** of sex chromosomes)
 a total of 46 chromosomes (2N) per cell
human gametes are **haploid**
 have **one** chromosome set (**22** autosomes and **one** sex chromosome)
 a total of 23 chromosomes (1N) per cell

chromatid

is **one half** of a **uplicated** chromosome that **does not** code for proteins
before diploid cell division (**mitosis** or **meiosis**)
 chromosomal **DNA (2C) doubles (4C)** but the **ploidy** remains the same
 cells **do not become tetraploid** (N = 46) but **double-diploid** (2x N = 23)
during DNA replication each **sense/anti-sense** strand
 separates and acquires a complementary **anti-sense/sense strand**
one chromosome forms **two** chromatids
after cell division they become individual **chromosomes** in separate cells
chromatids may be
sister chromatids (present during mitosis, meiosis II)
formed from the **same** chromosome (paternal or maternal)
joined by a common **centromere** (a **dyad**; either **paternal dyads** or **maternal dyads**)
sister chromatid exchange (SCE) is the exchange of genetic information between **sister** chromatids
SCE occurs during mitosis or meiosis II
SCE reflects DNA recombinational repair processes responding to DNA damage
non-sister chromatids (present during meiosis)
formed from each **homologous chromosome** (paternal and maternal)
joined by **chiasmata** of one **paternal** chromatid and one **maternal** chromatid
non-sister chromatid exchange (NSCE) is the exchange of genetic information between **non-sister** chromatids
NSCE occurs during prophase I of meiosis I
NSCE provides genetic variety for evolution

See: [Mitosis/meiosis](#), [Ploidy](#)

Chronic

See: [Acute/chronic](#)

Cilia/flagella/microvilli

cilia	primary cilia	long non-motile slender protrusions from a cell's apical membrane usually one per cell with central actin filaments chemosensor functions Occasional cells of the rete testis bear a single cilium
	stereocilia	long non-motile slender protrusions from a cell's apical membrane several per cell with central actin filaments absorptive and resorptive functions Stereocilia are found on principal cells only in the epididymal initial segment of rodents
	kinocilia	long motile slender protrusions from a cell's apical membrane several per cell with central axoneme 9+2 microtubules beat in coordinated fashion to move fluid outside it The efferent ducts transport spermatozoa to the epididymis by beating of their cilia
<i>flagella</i>		long motile structures of a cell

a few per cell [one per spermatozoon]
 with central axoneme **microtubules** [9+2 in spermatozoa]
beat in coordinated fashion to move the **cell** containing it
 The sperm tail comprises a **flagellum** divided into midpiece, principal piece and end-piece regions
microvilli **short non-motile** protrusions from a cell's apical membrane
several per cell
 have central **actin** filaments
 have **absorptive or resorptive** functions
Microvilli are found on principal cells in all regions of the rodent epididymis, except the initial segment

cir.

See: [c. \(ca., cca., cir.\)](#)

Circa (Latin)

See: [c. \(ca., cca., cir.\)](#)

Circadian/infradian/ultradian rhythm

circadian rhythm

a natural, internal process that regulates the sleep–wake cycle

a period of roughly 24 h

related to the earth's rotation on its axis

once a day

early morning testosterone secretion

early evening growth hormone/melatonin secretion

infradian rhythm

a period (> 24 h) **longer** than the circadian rhythm

related to the moon's revolution around the earth

once a month

menstrual cycle, ovulatory cycle

the **earth's revolution** around the sun

once a year

seasonal depression

ultradian rhythm

a period (< 24 h) **shorter** than the circadian rhythm

related to organ physiology

more than once a day

90–120 minute cycling of the stages during sleep

Circumjacent

See: [Adjacent/adjacent to/circumjacent](#)

Circumpositions

See: [Adpositions](#)

Cis-/trans-

cis- on the same side

cis-2-butene

trans- on the opposite side

trans-2-butene

See: [Contra-/ipsi-](#), [Prefix list](#)

Claim

to state as being the case, in the absence of proof

followed by the **declarative** mood

He **claims** that vitamin D **enhances** cholesterol outflow

Claim/proclaim

claim to state as being the case, in the absence of proof

proclaim to announce officially or publicly

Claim/demonstrate/establish/show

claim to state as being the case

in the absence of proof

He **claimed** that Zn would inhibit the acrosome reaction

demonstrate to show something to be true

by reason and evidence

She **demonstrated** that Ca promoted the acrosome reaction

establish to prove something to be true

by reason and evidence

She **established** that Zn would not inhibit the acrosome reaction

show to reveal something to be true

by reason and evidence

He **showed** that Zn would not inhibit the acrosome reaction

See: [Certainty/uncertainty](#), [Claim](#), [Demonstrate](#), [Establish](#), [Identify/indicate/show](#), [Reveal/show](#)

Clarify/elucidate/explain

clarify to make something less confused, to explain clearly

He **clarified** his support for this area of research

elucidate to make something clear, to explain

He managed to **elucidate** the Wnt-signalling pathway

explain to describe in detail, to elucidate

He **explained** the reason for altering the composition of the medium

to be the cause or motivating factor for

High numbers of immune cells may **explain** the low cancer rate in this tissue

Classic/classical

classic typical
of acknowledged excellence

The patient exhibited the **classic** symptoms of androgen-resistance

Benoit's **classic** work on the epididymis (1926)

classical of Ancient Greek or Latin art and literature

The main entrance of the new building exhibited **classical** Ionic columns

Cleaning/cleansing/disinfecting/sterilising

cleaning making clean, removing foreign material, decontaminating, sanitising

Clean the bench after use

cleansing making thoroughly clean, usually the skin or a wound

Cleanse the skin after the operation before closing the wound

disinfecting eliminating **all pathogenic** micro-organisms **except** bacterial spores

The skin was **disinfected** before a mid-line incision was made

sterilising completely eliminating **all forms** of micro-organisms

The instruments were **sterilised** after every operation

See: [Pasteurisation/UHT treatment](#), [Sterilisation/sterility](#)

Clearly

in a manner that can be easily appreciated obviously, without doubt **Clearly** understanding this is the first step to designing the project [the understanding is to be clear]
Clearly, understanding this is the first step to designing the project [the whole clause is to be clear]

NOTE the use of **clearly** inserts an element of **persuasion** or **pleading** that invites **scepticism** about the results

NOTE *Overused word*: often used unnecessarily [omit]

ALERT Check whether the use of **clearly** is necessary

Fig. 5 **clearly** shows the androgen-dependence of organ weights

STYLE *Word usage*: if it is obvious, there is **no need** to point it out

CHANGE by **omitting clearly**

Fig. 5 shows the androgen-dependence of organ weights

Cleaved/cleaved

cleaved past participle of the verb to cleave The epididymis was **cleaved** between the connective tissue septa to unravel the tubule

See: [Back-formation](#)

Cleft sentences

emphasise an element placed in a **separate clause**

with the use of an **empty** (dummy) introductory word such as **it** or **that**

It's **fame not money we want**

It was **today that I saw him**

That was **the Chancellor you were talking to**

See: [Sentences](#)

Close/near

close only a short distance away or apart in space or time

requires the preposition **to**

The hostel is **close to** the laboratory

near at or to a short distance away, nearby

requires **no** preposition

The hostel **to near** the laboratory.

Close scrutiny

Pleonasm: as **scrutiny** involves close evaluation, **close** is **superfluous**: use **scrutiny**

Co-

See: [Prefix list](#)

Code/encode/encode for

code noun a system of symbols representing others, especially for secrecy

Quality control was by **codes** covering the slide labels

verb to convert into coded form, for classification or identification

She **coded** the video-recordings of sperm motility for analysis

to be the genetic code for an amino acid or protein

We studied the genes that **code for** human growth hormone

encode verb (of a gene) to be responsible for producing a substance

This is the gene that **encodes** the yeast mating type protein

The east mating type protein is **encoded by** this gene

encode for as **encode** means **to code for** something, it **needs no** additional **preposition (for)** after it

Codification

See: [Back-formation](#), [Code/encode/encode for](#)

Coeval/concurrent/contemporaneous/contemporary/simultaneous

coeval having the same age or date of origin, contemporary

concurrent existing, happening or done at the same time, contemporaneous, simultaneous

contemporaneous existing at, or occurring in, the same period of time, concurrent, simultaneous

contemporary living or occurring at the same time, coeval

simultaneous occurring, operating, or done at the same time, concurrent, contemporaneous

Coincide

occurring at or during the same time

does not mean agree, confirm, correspond in position or nature, meet, support, tally

See: [Chance/coincidence](#)

ALERT Check whether a **coincide** is the **intended word**

These results **coincide** with reports of the absence of TMF from mature spermatozoa

ERROR *Syntax*: no **simultaneous actions** described

CORRECT by

replacing coincide by agree

These results **agree with** reports of the absence of TMF from mature spermatozoa

replacing coincide with by confirm

These results **confirm** reports of the absence of TMF from mature spermatozoa

Cold/heat/hot/temperature

cold adjective having a low degree of heat or a low temperature

The thawing samples are still **cold**

	noun	the quality of being cold, of low temperature	Beware of the cold when pouring liquid nitrogen
<i>heat</i>	noun	the quality of being hot, of high temperature	Beware of the heat when removing the boiled samples
<i>hot</i>	adjective	having a high degree of heat or a high temperature	The boiled samples are still hot
<i>temperature</i>	noun	the degree or intensity of heat present	Cold objects have a low temperature Hot objects have a high temperature

See: [Temperature scales](#)

ALERT Check that both **hotter** and **temperature** are not used in the same sentence

The autoclave was set to the **hotter temperature** of 170°C for removing HIV

ERROR *Semantics:* only **objects**, **not temperatures**, can be **hot** or **cold** (measured by their **temperature**)

CORRECT by replacing **hotter** by **higher**

The autoclave was set to the **higher** temperature of 170°C for removing HIV

Cold/hot temperature

Pleonasm: as **cold/hot** means of low/high **temperature**, one word is *superfluous*: use **cold/hot** or **low/high temperature**

Collaborate together

Pleonasm: as **collaboration** involves working together, **together** is *superfluous*: use **collaborate**

Collaboration/collusion

collaboration working together for mutual benefit

The scientists started a **collaboration** on the project

collusion working together for fraudulent ends

The perfect agreement of the technicians' quality control results suggested **collusion**

Collect/obtain/provide/retrieve

collect transitive verb to bring or gather together

At the end of the day she **collects** all used Petri dishes for autoclaving

obtain intransitive verb to call for and take away, to fetch

He **collects** the dirty lab. coats once a week

transitive verb to be prevalent, customary or established

The epididymal fertility profile that **obtains** in the rabbit is not universal

transitive verb to acquire, to be given, to get, to receive

Sufficient material for examination was **obtained** by these manipulations

implies no choice by the donor

Spermatozoa were **obtained** from the epididymides of rats

provide transitive verb to give, to make available for use, to supply

Ejaculates were **obtained** from boars by the gloved hand method

implies a willingness to donate

These manipulations **provided** sufficient material for examination

Semen samples were **provided** after two days abstinence

The azoospermic men **provided** round spermatids for ICSI

[only **people** can **provide things**]

retrieve transitive verb to find or extract (e.g. samples from an organ)

The surgeon **retrieved** spermatids from the testis of azoospermic men

See: [Provided by/that/with](#), [Retrieve/return](#)

ALERT Check that **obtain/collect** is the **intended word**

All human semen specimens were **obtained/collected** by masturbation after 2–5 days abstinence

ERROR *Semantics:* this implies that the semen was obtained **with the aid** of a third party

CORRECT [if **no** help in procuring the sample was needed] by

replacing **obtained/collected** by **provided**

All human semen specimens were **provided** by masturbation after 2–5 days abstinence

Collected together

Pleonasm: as **collect** involves bringing together, **together** is *superfluous*: use **collected**

NOTE *Overused word:* often used unnecessarily [omit]

ALERT Check whether the use of **collected** is necessary

The ejaculated spermatozoa **collected** were suspended in buffer

ERROR *Semantics:* ambiguous, to be suspended they must have been collected

so **this could be interpreted as**

some spermatozoa were **not collected** and not suspended in buffer

or

the spermatozoa **collected in this study** are compared with those collected in another

CORRECT [if **no** comparison with other work is meant] by

omitting **collected**

The ejaculated spermatozoa were suspended in buffer

CORRECT [if a **comparison** with other studies is intended] by

inserting **in this study**

The ejaculated spermatozoa collected **in this study** were suspended in buffer

Collude together

Pleonasm: as **collude** implies coming together, **together** is *superfluous*: use **collude**

Collusion

See: [Collaboration/collusion](#)

Come

to move here/reach orgasm

See: [Light/phrasal verbs](#)

Commence

to begin, to start

Commensurate/concomitant

commensurate corresponding in size or degree, in proportion
concomitant associated with, naturally accompanying

Salary will be **commensurate** with age and experience
 He loved teaching, with all its **concomitant** worries

ALERT Check that **commensurate** is the intended word

Commensurate with the overall increase in the numbers, was a change in the types of laboratories

ERROR *Syntax*: this statement associates **numbers** with **categories**, which do not correspond

CORRECT [if the numbers and types of laboratory **changed in parallel**] by

replacing **commensurate** by **concomitant**

Concomitant with the overall increase in the numbers, was a change in the types of laboratories

Comment/commentate

comment to express an opinion, to provide a comment

He **commented** that learning statistics would be invaluable

commentate to provide a commentary on an event as it happens (especially sport)

On Monday they **commentate** on the tennis finals

Committee is/are

is when the **committee itself** is the head noun

The **committee is** now deciding on the outcome

are when what the **committee consists of** (a plural group) is the head noun

The **committee are** now taking their seats

See: [Collective nouns](#), [Head nouns](#)

Common/in common

common coming from **two or more** people/groups, shared by

followed by the preposition **to**

The protein subsets **common to** both proteomes were studied

in common in joint use or possession, shared

followed by the preposition **with**

The protein subsets **in common with** the proteomes of spermatozoa and fluids were studied

Common/mutual/reciprocal

common of things shared in common by **two or more** people

They had a **common** admiration

[for a third party]

mutual a **reciprocal** relationship between **two** people

They had a **mutual** friendship

[between two friends]

reciprocal bearing on or binding **two parties** equally

There was a **reciprocal** relationship

[between two parties]

ALERT Check that **mutual is not** used with words **implying exchange**

A **mutual** exchange of ideas

ERROR *Pleonasm*: as an exchange must be **mutual**, **mutual** is **superfluous**

CORRECT by **omitting mutual**

An exchange of ideas

Comparable/comparative

comparable able to be likened to another, similar

The research funding in Holland is **comparable** to that in England

comparative relative

He returned to the **comparative** comfort of his own institute

See: [Comparative/superlative](#)

Comparable to/contrast with

comparable to emphasises the **similarities** between or among things

Treated survivors had semen quality **comparable to** that of controls

contrast with highlights the **differences** between or among things

The results of chemotherapy **contrasted with** those of irradiation

See: [Compare to/with](#)

Comparative/superlative

comparative of an **adjective** or **adverb**

expressing a **greater** degree of a quality

for comparing **two** items

requires the **definite article**

superior comparative when **above** the other

He was **the elder** of the twins

inferior comparative when **below** the other

She was **the younger** of the twin sisters

for linking **two** comparatives

requires the **definite article**

The harder he worked **the more** recognition he received

The more he practised **the easier** it became

for comparing **more than two** similar items

followed by the conjunction **than**

superior comparative when **above** the others

He was **older than** all the other people in attendance

inferior comparative when **below** the others

She was **younger than** all the other poster presenters

there can be **many** items bearing the comparative

(by definition, they are not the superlative)

superlative of an **adjective** or **adverb**

expressing a quality **surpassing** all others

only for comparison of **more than two** similar items

requires the **definite article**

superior superlative when **above** the others

inferior superlative when **below** the others

there can be only **one** item bearing a superlative

(by definition, no other person or item is its equal)

He was **the oldest** in attendance [no one was as old]

She was **the youngest** presenter [no one was as young]

NOTE can only be used to compare similar groups

See: [Adjectives](#), [Adverbs](#), [Among the best](#), [Among the most](#), [Comparisons](#), [Elder/older](#), [Eldest/oldest](#), [One of the best](#), [One of the most](#), [Some of the best](#), [Some of the most](#)

Comparatively

adverb used when objects are compared

Compare/contrast

compare to note the **similarity** or **dissimilarity** between

They **compared** the percentages of caput and cauda spermatozoa with bound CD52 [a description of what was done]
(the values may have been similar or different)

contrast to compare in respect of **differences** between

They **contrasted** the percentage of caput and cauda spermatozoa with bound CD52 [an emphasis on the results]
(there was a difference)

Compare to/with

compare to expresses the **similarity** between A and B

to liken A with B

Her excellent thesis **was compared to** that of her supervisor

He **compared** the maturation of spermatozoa **to** a child's journey through puberty

compare with describes the **differences** between A and B

when **not known** if different

in a manuscript Methods

The serum LH values of the controls were **compared with** those of the treated males

when **known** to be **different**

in a manuscript Results

Compared with that of the controls, the glutamate content of the cells was **low**

Compared with control spermatozoa, the treated cells were **fast**

[used with the **absolute (positive)** form of the adjective]

See: [Compared with/in comparison with/than](#)

ALERT Check that the correct preposition is used with **compare**

The present results cannot be **compared with** those published a year ago

ERROR *Semantics*: there is nothing to prevent results being compared

CORRECT [if the present results were compared with others but **found to differ**] by

replacing **with** by **to**

The present results cannot be **compared to** those published a year ago

Compared with/in comparison with/than

compared with **comparative prepositional phrase** implying a comparison

used with the **absolute (positive)** form of an adjective

The results were **good compared with** those before

in comparison with **comparative prepositional phrase** implying a comparison

used with the **absolute (positive)** form of the adjective

The values were **bad in comparison with** those of the control

than **conjunction**

used with the **comparative** form of adjectives

The results were **better than** those before

The results were **worse than** those before

ALERT Check that **comparative adjectives** **are not** used with phrases **implying a comparison**

In the treated group there were **fewer** offspring **compared with/in comparison with** the control group

ERROR *Tautology*: as **fewer** is a **comparative** adjective, and the prepositional phrases **imply a comparison**, one term is **superfluous**

CORRECT by using **one or the other**, not both, by

replacing **compared with/in comparison with** by **than in**

In the treated group there were **fewer** offspring **than in** the control group

replacing **fewer** by **few**

In the treated group there were **few** offspring **compared with** the control group

Comparisons

comparisons are only valid among equivalent groups (those of the same rank)

See: [Compare to/with](#), [Compared with/in comparison with/than](#), [Genitive \(possessive\) case](#)

ALERT Check that only **grammatical equivalents** are compared

Lymphocytes from treated patients were larger than untreated **patients**

ERROR *Syntax*: this compares **lymphocyte size** with the **patients' size**

CORRECT by **comparing the size of lymphocytes** from treated and untreated patients by

inserting **lymphocytes from**

Lymphocytes from treated patients were larger than **lymphocytes from** untreated patients

inserting *those from*

Lymphocytes from treated patients were larger than ***those from*** untreated patients

Growth in the treated group was similar to **controls**

ERROR *Syntax*: this compares results (**growth**) with a group (**controls**)

CORRECT by **comparing** the **growth** in the treated and control groups by

inserting *the growth in*

Growth was similar to ***the growth in*** controls

inserting *that in*

Growth was similar to ***that in*** controls

This is obvious from comparison of **Ford's study** with **Cooper**

ERROR *Syntax*: this compares a study (**Ford's**) with a person (**Cooper**)

CORRECT by

inserting 's to *Cooper*

This is obvious from comparison of Ford's study with Cooper's

inserting *that of*

This is obvious from comparison of Ford's study with ***that of*** Cooper

Compensate

to give something, typically money, in recognition of loss, suffering or injury incurred, to recompense

We planned to **compensate** those suffering the loss of income

Compensate by/for/with

for **active** There was no change in sperm volume-regulating properties in the KO mice since AQP8 **compensated for** AQP7

passive In the KO animals, the down-regulation of APQ7 **was compensated for by** an up-regulation of APQ8

See: [Replace/substitute](#)

Competence/competency

competence the ability to do something successfully or efficiently

competence is a **mass** noun, which **has no plural**

the **plural** form takes a ***partitive*** construction

Her **competence** in small animal surgery ***is*** well proven

With time the animal has developed high ***levels of competence***

Complement/compliment

complement noun a grammatical term completing the meaning of a subject or object This wine is a **complement** to that cheese

verb to be complementary to, to supplement

The illustrations **complement** the text

compliment verb to admire, to praise, to respect

I **complimented** him on his number of publications

See: [Causative/complex transitive verbs](#), [Complements of verbs](#), [Sentences](#)

Complemented by/with

with The research team of biologists was **complemented with** students of ecology

Completely/wholly

completely totally, utterly The fire **completely** destroyed the laboratory

wholly entirely, fully The situation is not **wholly** clear

Completely full

Pleonasm: as **full** implies complete filling, **completely** is ***superfluous***: use **full**

See: [Absolute adjectives](#)

Component

a part

Compose/comprise/constitute/include

compose to constitute, to form, to make up

The Tables and Summary **compose** the Report

comprise to be composed of, to consist of

The Report **comprises** three Tables and a Summary

constitute to compose, to form, to make up

The Tables and Summary **constitute** the report

include to contain as part of a whole

The Report **includes** three Tables and a Summary

See: [Represent](#)

Composed of/consist in/consist of

composed of to comprise, to consist of

The Report is **composed of** the Tables and a Summary

consist in to have as an essential or main feature (formal)

His seminars **consist in** presenting his old data in another format

consist of to be composed of, to comprise

The Report **consists of** three Tables and a Summary

Compound

to combine The cost of the reagents **compounds** the problem

does not mean to make worse

Comprehend

See: [Apprehend/comprehend](#)

Comprise/comprise of

comprise means to consist of, so **needs no** additional **preposition (of)** after it

See: [Compose/comprise/constitute/include](#)

Computational/descriptive statistics

See: [Computational statistics](#), [Descriptive statistics](#), [Statistics](#)

Computed/computerised tomography

computed X-ray tomography calculated by computer **Computed** tomography (CT) provides excellent detail of cancers

Con/pro (Latin)

con	abbreviation of contra	noun	a disadvantage of, or argument against, something	Do you see any cons in this set-up?
pro	not an abbreviation	noun	an advantage of, or argument for, something	The pros of moving were easy transport and more pay
	preposition		for, in favour of	They were pro the virtues of drug-free treatment

Concatenate/conflate

concatenate	to link together in a chain or series	The 13 nucleotide sequence alignments were then concatenated into one data set For further analysis, the two data sets were concatenated
conflate	to combine into one	These are two distinct arguments and I argue that neither works, but that conflating them does

Concede/conceed

concede to admit something as a result of evidence I **concede** that I made an error in the calculation

Conceivable that

used when there is **insufficient evidence** for a conclusion to be drawn
expressed by the following verb in the **declarative** mood It is **conceivable that** cells are lost because of apoptosis

Conceive

intransitive verb	to become pregnant		The mother conceived six months ago
transitive verb	to be the product of conception	always passive	Her daughter was conceived when her father was 60
	[only females can conceive babies]		
	to form or devise a plan or idea		The idea was conceived after discussions at the meeting

See: [Certainty/uncertainty](#)

ALERT Check that **conceive** applies to females

Semen was obtained from men who had recently **conceived**
ERROR *Semantics:* only **women** can conceive
CORRECT by **mentioning** the men's **partners**
 Semen was obtained from men **whose partners** had recently **conceived**

This can be **conceived of** as having two main advantages
ERROR Syntax: as **conceive** means **to think of**, it **needs no** additional **preposition (of)** after it
CORRECT by omitting **of**
 This can be **conceived** as having two main advantages

Conceived/conceived of

conceived	past tense and past participle of the verb to conceive	He conceived the idea of relating sperm volumes to medium osmolality
conceived of	as conceive is a transitive verb, it needs no preposition (of) after it	

Consensus/consensus

consensus a collective, common opinion The **consensus** was to close the lab. temporarily during the pandemic

ALERT Check that **consensus** **is not** used with words **implying a common viewpoint**

The **consensus of opinion** was that longer cultures were required
ERROR *Tautology:* as a **consensus** **is** an **opinion**, one word is **superfluous**
CORRECT by **using one or the other**, not both, by
omitting of opinion
 The **consensus** was that longer cultures were required
replacing consensus of by **common**
 The **common opinion** was that longer cultures were required

Concentration/content

concentration	the number of objects per unit volume	
	for an ejaculate	20 million spermatozoa per ml (20x10 ⁶ spermatozoa/ml)
		4 mmol zinc per l (4 µmol zinc/ml)
		20 U α-glucosidase per l (20 mU α-glucosidase/ml)
content	the total number of objects in the total volume	
	in 3 ml of the above ejaculate	60 million spermatozoa (60x10 ⁶ spermatozoa per ejaculate)
		12 µmol zinc (12 µmol zinc per ejaculate)
		60 mU α-glucosidase (60 mU α-glucosidase per ejaculate)

See: [Concentration/count](#), [Concentration/dosage/dose](#), [Count/number](#)

Concentration/count

concentration	the number determined per unit volume	His sperm concentration was 20 million per ml
count	the number determined per total volume	His sperm count was 60 million per ejaculate

See: [Assess/count/estimate](#), [Concentration/content](#)

Concentration/dilution

concentration	of solids in liquids	quoted as	moles/l solution [M] moles/kg solvent % (w/v) [g/l solvent]
	of liquids in liquids	quoted as	% (v/v) [ml/l solvent]
	of gases in gases	quoted as	% (v/v) [% of the total]
dilution	of solids or liquids in liquids	quoted as	1:1 1-to-1 1+1 1-in-2

NOTE increasing a solute **concentration**, decreases its **dilution** increasing a solute **dilution**, decreases its **concentration**

See: [Concentration/dosage/dose](#), [Dilution](#), [Molality/molarity/normality](#), [Molality/osmolality/osmolarity/tonicity](#)

ALERT Check the **meaning** when discussing **dilutions**

As no staining was observed at 1:50, the antibody **dilution** was **increased** to 1:5

ERROR *Semantics:* **increasing** an antibody dilution **decreases** its concentration

CORRECT by

replacing **increased** by **decreased**

As no staining was observed at 1:50, the antibody **dilution** was **decreased** to 1:5

replacing **dilution** by **concentration**

As no staining was observed at 1:50, the antibody **concentration** was **increased** 10-fold

Concentration/dosage/dose

concentration	an amount of a substance per unit volume of solution		
	The anti-fertility agent (ornidazole, OZ) was made up as a stock solution of 500 mg OZ/ml [50 mg OZ is present in 0.1 ml of the above stock solution]		
dose	an amount of substance given at one time		
	per animal dose		
	for a fixed dose per animal of 50 mg OZ		
	A 300 g rat would receive	a dose of 50 mg OZ (in 0.1 ml) at each injection	
	bodyweight-related dose		
	for a dose of 50 mg OZ per 100 g		
	A 300 g rat would receive	a dose of 150 mg OZ (in 0.3 ml) at each injection	
dosage	an amount of substance given over a stated period		
	for a dosage of twice a day		
	for a fixed dose per animal of 50 mg OZ		
	A 300g rat would receive	a dosage of 100 mg OZ (in 0.2 ml) per day	
	for a body weight-related dose of 50 mg OZ per 100 g		
	A 300 g rat would receive	a dosage of 300 mg OZ (in 0.6 ml) per day	
	for a dosage of twice a day for two weeks (14 days)		
	for a fixed dose per animal of 50 mg OZ		
	A 300 g rat would receive	a total dosage of 1.4 g OZ over the two weeks	
	for a body weight-related dose of 50 mg OZ per 100 g		
	A 300 g rat would receive	a total dosage of 4.2 g OZ over the two weeks	

Concentration ($N \times 10^6/x10^{-6}$ per ml)

$N \times 10^6$ per ml in text
the **number (N)** is multiplied by the factor **10^6** to obtain the concentration **N,000,000** per ml ($N \times 10^6$ /ml)
in Table **column headings** and Graph **axis labels**
the **number (N)** tabulated or plotted is a million times **smaller ($\times 10^{-6}$)** than the **value** it represents
so **N** has to be multiplied by the factor **10^6** to obtain the concentration **N,000,000** per ml ($N \times 10^6$ /ml)

$N \times 10^{-6}$ per ml in text
the **number (N)** is multiplied by the factor **10^{-6}** to obtain the concentration **0.000,00N** per ml ($N \times 10^{-6}$ /ml)
in Table **column headings** and Graph **axis labels**
the **number (N)** tabulated or plotted is a million times **larger ($\times 10^6$)** than the **value** it represents
so **N** has to be multiplied by the factor **10^{-6}** to obtain the concentration **0.000,00N** per ml ($N \times 10^{-6}$ /ml)

See: [Multipliers/units](#)

ALERT Check for sperm concentration and count that the **multipliers** are correct

The mean sperm concentration in the fathers was **60×10^{-6} /ml**

ERROR *Semantics:* the number written in the text (60) is multiplied by **$\times 10^{-6}$** so the sperm concentration is **0.000060/ml**

CORRECT [if the concentration is **60 million** per ml] by

replacing **$\times 10^{-6}$** by **$\times 10^6$**

The mean sperm concentration in the fathers was **60×10^6 /ml**

writing the **multiplier** in full

The mean sperm concentration in the fathers was **60 million/ml**

writing the **concentration** in full

The mean sperm concentration in the fathers was **60,000,000 per ml**

Concept/idea/tenet

<i>concept</i>	a hypothesis, idea, intention, paradigm
<i>idea</i>	a belief, concept, impression, opinion, principal, suggestion, tenet, thought
<i>tenet</i>	a belief, principle

See: [Hypothesis/idea/theory](#)

Concerned

past participle of the verb to concern

used as an adjective its meaning depends on its position

before the **noun** means worried

after the **noun** means relevant or affected

Concerned students have difficulty studying for their exams

The grant will be given to the **student concerned**

See: [Participles](#), [Position of adjectives](#)

Concerning

preposition with reference to

adjective alarming, worrying

Concerning this order, we find the small screwdriver has not been shipped

I find many of his comments very **concerning**

[**only people** can be **concerned**]

does not mean involving

NOTE *Overused word*: often used unnecessarily, as a preposition replace by **about** [or omit]

NOTE usually **no confusion** when used with **insentient objects**
possible **source of confusion** when used with **people**

He wrote a thesis **concerning hormone action** on protein secretion

Your comments **concerning Dr Albert** need to be retracted

(the comments may be **about** Dr Albert or make her **concerned**)

ALERT Check that **concerning does not mean involving**

Schematic representation of disulphide bridging events **concerning** thiol groups present on a unique protein

ERROR *Syntax*: **concerning does not mean** involving

CORRECT by **replacing concerning** by **in relation to**

Schematic representation of disulphide bridging events **in relation to** thiol groups present on a unique protein

ALERT Check the **meaning** when **concerning** is used with people

He made a statement **concerning** Dr Albert

ERROR *Semantics*: ambiguous

so **this could be interpreted as**

He said something **about** Dr Albert to someone

[**concerning** meaning **with reference to**]

or

He said something that made Dr Albert **concerned**

[**concerning** meaning **worried, alarmed**]

CORRECT [if the **former** is meant] by

replacing concerning by **about**

He made a statement **about** Dr Albert

CORRECT [if the **latter** is meant] by

replacing concerning by **of concern to**

He made a statement **of concern to** Dr Albert

replacing concerning by **that worried**

He made a statement **that worried** Dr Albert

Concerning this effect

Style: verbosity, can be shortened: **avoid**

Conclude that

used when there is **sufficient evidence** for a conclusion to be drawn

expressed by the following verb in the **declarative** mood From their decline we **conclude that** the proteins **are** androgen-dependent

See: [Certainty/uncertainty](#)

Concomitant

See: [Commensurate/concomitant](#)

Concrete nouns

See: [Abstract/concrete nouns](#)

Concur

to be of the same opinion, to agree

[**only people** can **concur**]

We **concurred** on the order of authors in the manuscript

ALERT Check that **concur** refers to a subject **capable of concurring**

These findings **concur** with those obtained from human ejaculated spermatozoa

ERROR *Syntax*: **findings** are **insentient** and **cannot** concur with anyone

CORRECT by replacing **concur** by **are consistent**

The findings **are consistent** with those obtained from human ejaculated spermatozoa

Condensate/condense

condensate	noun	liquid collected by condensation is not a verb	Our purified water is distilled; collected as a condensate after boiling
condense	verb	to make more concentrated to express in fewer words to cause to change a gas to a liquid	Condense your presentation to 30 minutes You need to condense the abstract to 200 words or fewer The moist vapour in the air condenses into droplets of water

Condensated/condensed

condensed the past tense and past participle of the verb to condense The abstract is too **condensed** to make enjoyable reading

See: [Back-formation](#)

Condensed/evaporated/skimmed milk

condensed milk	milk that has had about 60% of its water removed by evaporation , and sweetened	[sweetened condensed milk; SCM]
evaporated milk	milk that has had about 60% of its water removed by evaporation but not sweetened	[unsweetened condensed milk]
skimmed milk	milk from which 99.9% fat (cream) has been removed; formerly by skimming from the surface; now by centrifugation	

See: [Skim/skimmed milk](#)

Condensation/evaporation/sublimation

condensation	phase change from vapour to liquid by cold Distilled water was obtained by condensation of steam by cold running water
evaporation	phase change from liquid to vapour by heat The washed sperm suspensions were dried on slides by evaporation at room temperature
sublimation	phase change from solid to vapour by heat, or vapour to solid by cold, without an intermediary liquid phase Proteins were obtained by sublimation of ammonium chloride during freeze-drying

See: [Evaporation/vaporisation](#), [Freezing/melting/thawing](#), [Gas/vapour](#), [Liquefaction/solidification](#)

Conducted

past participle of the verb to conduct
to accomplish, to do, to organise and carry out, to perform

NOTE *Vague word*: often used unnecessarily, replace by **what was conducted** [or omit]

See: [Done](#), [Overused words](#), [Study](#), [Using](#)

ALERT Check whether **conducted** should be **replaced** by a **more relevant word**

Functional **checks** were **conducted** on the centrifuge

STYLE *Verbosity*: can be shortened

CHANGE by rewriting the sentence by

omitting conducted and **replacing the noun** by its related **verb**

The centrifuge **was checked** for function

The function of the centrifuge **was checked**

Confirm/corroborate/support

confirm	to establish the correctness of something, to corroborate, to support	The report confirms that the drug induced infertility
corroborate	to give support to a statement, to confirm, to support	The new evidence corroborates the older findings
support	to suggest the truth of, to confirm, to corroborate	These studies support our findings

See: [Check/confirm/validate/verify](#), [Corroboration](#)

ALERT Check that **confirm** refers to an object **capable of confirming something**

The gas chromatogram **confirms** the view that *myo*-inositol is formed from glucose

ERROR *Syntax*: a **chromatogram** is **insentient and cannot** make confirmations

CORRECT by

accepting that **the data** in the chromatogram **provide evidence that** may be interpreted to confirm something

The gas chromatographic **data confirm** the view that *myo*-inositol is formed from glucose

Conflate

See: [Concatenate/conflate](#)

Confluence/confluency

confluence an act or process of merging Measure the transepithelial electrical resistance once the cells have reached **confluence**

See: [Back-formation](#)

Congruent

in agreement

does not mean in parallel, simultaneously

*Conjunct adverbials*See: [Adverbials](#)*Connect together**Pleonasm*: as **connect** implies bringing together, **together** is *superfluous*: use **connect***Consequent/subsequent*

<i>consequent</i>	following as a result of	The irradiation and consequent testicular dysfunction
<i>subsequent</i>	occurring after	The return of fluid production and subsequent reappearance of spermatogenesis

See: [After/following](#), [After/subsequent/subsequent to](#), [Prior/subsequent](#), [Subsequent/subsequently](#)**ALERT** Check that only **consequent** or **subsequent** is usedThis may trigger a feed-forward loop to enhance the expression of β -catenin target genes and **subsequent consequences****ERROR** *Tautology*: as **consequences** must be **subsequent** to some event, **subsequent** is *superfluous***CORRECT** by**replacing *subsequent* by a pronoun**This may trigger a feed-forward loop to enhance the expression of β -catenin target genes and **its** consequences**replacing *consequences* by *effects***This may trigger a feed-forward loop to enhance the expression of β -catenin target genes and **subsequent effects***Consequential/consequently*

<i>consequential</i>	adjective	following as a result of	The high demand for graduates led to a consequential increase in salaries
		of consequence, important, significant	His institute had done no consequential research for a decade
<i>consequently</i>	adverb	as a result, so, therefore	Recent graduates are in high demand and consequently can earn high salaries

Consider/consideration

<i>consider</i>	verb	to think carefully about something before to look attentively to believe to be, to think [only people can consider things]	Each submission is considered on its merits He considered it for some time before realising what was wrong These men are not considered at risk of infertility
<i>consideration</i>	noun	careful thought, typically over a period of time	He gave the review serious consideration before rejecting it

ALERT Check that the subject of the sentence can **consider** thingsEmpirical antimicrobial therapy is of utmost importance and has **to consider** the most probable relevant pathogens**ERROR** *Syntax*: **therapy** is **insentient and cannot** make choices**CORRECT** by**inserting a *human element***Empirical antimicrobial therapy is of utmost importance and **we have to consider** the most probable relevant pathogens**rewriting the sentence by changing the *active* to *passive* voice**Empirical antimicrobial therapy is of utmost importance and the most probable relevant pathogens **have to be considered****ALERT** Check that the use of **consider** does not cause confusionAll non-overlapping spermatozoa were **considered** for analysis**ERROR** *Semantics*: ambiguous, **it is unclear** if the considered cells were analysed
so **this could be interpreted as**

all non-overlapping cells were considered for analysis and all were analysed

or

all non-overlapping cells were considered for analysis but some were rejected

CORRECT [if the **former** is meant] by**omitting *considered***All non-overlapping spermatozoa **were analysed****CORRECT** [if the **latter** is meant] by**being more specific**Some non-overlapping cells **were not analysed** because of their head orientation*Consider that*

used when there is some evidence for a conclusion to be drawn

expressed by the following verb in the **declarative** mood It is **considered** possible **that** cells **are** lost because of apoptosisSee: [Certainty/uncertainty](#)*Considerable amount of**Style*: verbosity, can be shortened: replace by **much***Considerable number of**Style*: verbosity, can be shortened: replace by **many***Considerable proportion of**Style*: verbosity, can be shortened: replace by **most***Consideration has been given to the fact that**Style*: verbosity, can be shortened: replace by **it is considered/we consider that**

Considering

conjunction	in view of, taking into consideration followed by that	Considering that the surgical treatment was severe, he produced excellent research
gerund	verbal noun acting as subject	
participle	consideration of, thinking about taking into consideration	His considering the total cost including installation led him not to buy the equipment
preposition	verbal adjective describing a noun in view of, taking into consideration relating a phrase and a clause	Considering our expenses, we decided against purchasing a new microscope Considering the severity of the surgery, the infertility is not unexpected

See: [In/upon consideration of](#)

Consist

See: [Compose/comprise/constitute/include](#)

Consistent/constant

<i>consistent</i>	unchanging in quality, attitude behaviour with time compatible or in agreement not containing logical contradictions	The new method provided consistent cell cultures Our results are consistent with those of Jones His was a consistent explanation of the facts
<i>constant</i>	occurring continuously over a period of time, unchanging	The plate mixer provided a constant speed

See: [Continual/continuing/continuous](#)

ALERT Check that **consistent with** has a **relevant noun or pronoun** to complement

Consistent with the **observations** made by Arrighi (2013), **we** demonstrated that cilia were associated with basal cells

ERROR *Semantics:* **consistent with** is an adjectival phrase and **we** is the nearest pronoun it can complement **so this implies that we** were consistent with the observations of Arrighi

CORRECT [if our observations were **consistent** with those of Arrighi] by

replacing **we demonstrated** by **ours showed**

Consistent with the **observations** made by Arrighi (2013), **ours** showed that cilia were associated with basal cells

Constant

unchanging

See: [Consistent/constant](#)

Constitute/represent

<i>constitute</i>	to form, to make up a complete group	
<i>represent</i>	to amount to to typify a larger category	The value in the gonadotrophin-treated samples represents a 50% increase in androgen secretion Twenty volunteers were selected to represent a cross section of the student population
	does not mean is	

See: [Compose/comprise/constitute/include](#)

ALERT Check that **represent** indicates a subgroup

Peroxiredoxins **represent** a superfamily of Se-independent peroxidases

ERROR *Semantics:* **represent** implies **part** of a larger category, whereas all peroxiredoxins are Se-independent and so form **all** the Se-independent family

CORRECT [if **all** the Se-independent peroxidases are meant] by

replacing **represent** by **constitute**

Peroxiredoxins **constitute** a superfamily of Se-independent peroxidases

CORRECT [if only **some** peroxidases is meant] by

omitting **Se-independent**

Peroxiredoxins **represent** a superfamily of peroxidases

Construe

to interpret in a certain way

Contagious/infectious

<i>contagious</i>	of a disease	spread from one person or organism to another typically by direct contact	Monkey pox is a contagious disease
	of a person	having a disease that can be transmitted to others by direct contact	They isolate the contagious people in quarantine
	of an emotion	a feeling or attitude likely to spread to and affect others	Her enthusiasm is contagious
<i>infectious</i>	of a disease	liable to be transmitted to people, organisms via disease-bearing organisms in the environment	There are now local outbreaks of infectious diseases
	of animal	liable to spread infection	The dogs may still be infectious

Containing/filled with

<i>containing</i>	controlling or restraining oneself having or holding something within, with room for more contents	He had difficulty containing his giggles during the seminar Documents containing both text and graphs are accepted
<i>filled with</i>	to put in as much as can be held, with no room for more contents	The volumetric flask was filled to the mark with solvent

See: [Absolute adjectives](#)

ALERT Check the **meaning** when using **filled**

Cells were plated in Petri dishes **filled with** sterile PBS

ERROR *Semantics*: if the dishes were **filled with** PBS there would be **no room** for the cells

CORRECT by **replacing filled with** by **containing**

Cells were plated in Petri dishes **containing** sterile PBS

Contamination/contaminations

contamination **contamination** is a **mass** noun, which **has no plural**
the **plural** form takes a **partitive** construction

The extra-tubular **contamination** *is* now reduced
Extra-tubular **sources of contamination** *are* reduced

Contemporary

See: [Coeval/concurrent/contemporary/contemporaneous/simultaneous](#)

Content

See: [Concentration/content](#)

Content/function words/phrases

content words **have** meaningful content
[specific meanings]

include **adjectives** **adverbs** **lexical verbs** **nouns**

content phrases contain the part of speech (**content word**) whose action they perform

include **adjective** phrases **(adjective)**

adverb phrases **(adverb)**

noun phrases **(noun)**

verb phrases **(verb)**

function words **have no** meaningful content

[express a **relationship** with other words]

include **conjunctions** **participles** **prepositions**

function phrases **need not** contain the part of speech whose action they perform

[but another (**part of speech**)]

include **adjectival** phrases **(participles, prepositions)**

adverbial phrases **(prepositions)**

conjunctive phrases **(participles)**

noun phrase **(prepositions)**

See: [Adverbials](#), [Parts of speech](#), [Phrases](#)

Continual/continuing/continuous

continual continuing intermittently, repeated frequently

He is known for his **continual** questioning of accepted dogma

continuing current, currently in progress

No statement will be made while plagiarism investigations are **continuing**

continuous continuing without interruption, constantly, incessantly

Ensure that there is **continuous** monitoring of the water bath temperature

NOTE **Continuous** work is impossible with **continual** interruption

Continuous/solid/unbroken line

continuous The graph shows the results from the treated cells (**continuous** line) and controls (broken line)

solid for 2D graphs a solid line is three-dimensional

unbroken The graph shows the results from the treated cells (**unbroken** line) and controls (broken line)

Continuously/infinately variable

continuously variable capable of being changed between finite limits

infinately variable capable of being changed between infinite limits

Contra-/ipsi-

contra- on the same side He has **contralateral** testicular torsion

ipsi- on the opposite side He has **ipsilateral** epididymal blockage

See: [Cis-/trans-](#), [Prefix list](#)

Contraction

See: [Abbreviation/acronym/contraction/initialism](#)

Contradicting/contradictory/contrary

contradicting participle denying a statement's truth by asserting the opposite

During the talk she continually **contradicted** her supervisor

contradictory adjective mutually opposed or inconsistent

The authors came to **contradictory** conclusions

contrary adjective opposite in direction, nature or meaning

He ignored **contrary** advice and submitted the paper to Nature

Contrari-/like-wise

contrariwise in the opposite way
likewise in the same way, also
in a like manner, similarly

Contrariwise, enhanced expression of E-cadherin suppresses metastatic potential

The new guidelines come into force next year; **likewise** the new ISO standards

I used the highlighting function to indicate the manuscript's errors, the student did **likewise**

Contrary to

quasi-adverb conflicting with or running counter to They did it **contrary to** my wishes
Contrary to expectations, the fertility of the mutants was increased

See: [Prepositions](#)

Contrast

See: [Compare/contrast](#)

Contribute

See: [Attributable/attribute/contribute](#)

Control

to govern, to maintain, to limit a variable

does not mean to check, to count, to examine, to inspect, to measure, to monitor, to observe

See: [Population-/subject-based control groups](#)

Conventional

See: [Canonical/conventional](#)

Converse/conversely

converse verb to engage in conversation

After failing the exam she could not **converse** with her supervisor

conversely adverb introducing a statement reversing one already made

False values were accepted, **conversely**, correct ones were rejected

See: [Inverse/invert/obverse](#)

Convince/persuade

convince to cause someone **to believe** something followed by **that**

She **convinced** me **that** the epididymis was important

I was **convinced that** he was innocent

persuade to cause someone **to do** something followed by **of**

I was **convinced of** his innocence

a **full infinitive** I was **persuaded to study** epididymal perfusion for my PhD

Co-occur together/with

Tautology: as **co-occur** means **to occur jointly**, it needs no additional **preposition (together, with)** to follow it

Cooperation/cooperations

cooperation **cooperation** is a **mass noun**, which **has no plural**
the **plural** form takes a **partitive** construction

Their main **cooperation was** on epididymal research

Areas of cooperation are sperm motility and vitality

Coordinate/cumulative adjectives

coordinate are of **equal** importance
separated by commas

A **fertile, healthy** marmoset

(**any** marmoset which is both **fertile** and **healthy**)

A **healthy, fertile** marmoset

(**any** marmoset which is both **fertile** and **healthy**)

cumulative are of **unequal** importance the one **closer** to the noun **takes precedence**
are not separated by commas A **fertile healthy** marmoset

(a **healthy** marmoset which is **fertile**)

A **healthy fertile** marmoset

(a **fertile** marmoset which is **healthy**)

See: [Position of adjectives](#)

Copy/original/top copy

copy something made to be similar or identical to the original

original the earliest form of something, from which copies may be made, the top copy

top copy the original thing of which copies have been made, the original

Correct/correctly

correct adjective placed **before** the **noun**

He did the **correct thing**

correctly adverb placed **before** the **verb**

The figures are **correctly calculated**

placed **after** the **verb**

He **added up** the figures **correctly**

See: [Right/rightly](#)

Correlated to/with

correlated with The weight of the epididymis is **correlated with** the dose of androgen given to castrates

See: [Associated to/with](#), [Related to/with](#)

Correlation

See: [Association/correlation/regression](#)

Correspondence/correspondents

correspondence singular noun a close similarity, connection or equivalence

There is a **correspondence** between dose and effect

mass noun communication by exchanging letters, emails etc.

He checked his **correspondence** on arrival at the lab.

correspondents plural noun those who regularly write reports for news media

They were the local newspaper's science **correspondents**

See: [Association/correlation/regression](#)

Corrigendum

See: [Addendum/corrigendum/erratum](#)

Corroboration

evidence that confirms or supports a statement, theory or finding, confirmation

Corroborate

See: [Confirm/corroborate/support](#)

Cortexes/cortices

cortices Incubate the kidney **cortices** with and without hormones

Cost/price

<i>cost</i>	noun	the amount of money required in payment	We are able to cover the cost of the microscope
	verb	to require payment before acquisition	The microscope costs under €50,000
<i>price</i>	noun	the amount of money required in payment	The price of the microscope is under €50,000
	verb	to decide the amount required as payment	The microscopes were priced at under €50,000

See: [Cheap/dear/expensive](#)

Cotemporaneous

See: [Coeval/concurrent/contemporary/contemporaneous/simultaneous](#)

Cotemporaneous in age

Style: verbosity, can be shortened: replace by **the same age**

Could

a **modal auxiliary verb** followed by a **base infinitive**

for **all** persons, singular/plural

to be able or capable of doing something

for statements [**past time** sense of can]

for politeness [more formal than **can**]

to feel inclined to

in forming the **conditional** mood

in the [main, **consequence**] clause of **conditional sentences** that **may be untrue**

with the **subjunctive** in the (subordinate, **conditional**) clause (If I **were** director) [I **could** hire you]

in forming the **subjunctive** mood

in the (subordinate, **conditional**) clause of **conditional sentences** that **may be untrue**

with the **conditional** in the [main, **consequence**] clause (If I **could** help you) [I **would**]

He **could not inject** the animals last year [he'd not been taught]

Could you **show** me where the culture room is? [they may not know]

I **could kick** myself for omitting the supplements

See: [Auxiliary verbs](#), [Can](#), [Conditional mood](#), [Subjunctive mood](#)

ALERT Check that **could** provides the **intended meaning**

After the injections we **could measure** a higher secretion than before them

ERROR **Tautology**: as secretions **were** measured, stating the ability to do so is **superfluous**, unless it was dependent on conditions

CORRECT [if the conditions were **not** important] by

replacing **could measure** by **measured**

After the injections we **measured** a higher secretion than before them

CORRECT [if the conditions **were** important] by

stating the **conditions**

After the injections we **could measure** a higher secretion than before them **but only with a sensitive assay**

After two days PRDX6 **could suppress** cell injury and **repair** skin cells

ERROR **Syntax**: **could** is the conditional mood but the relevant conditions are not provided

CORRECT [if the conditions were **not** important] by

replacing **could suppress** by **suppressed** and **repair** by **repaired**

After two days PRDX6 **suppressed** cell injury and **repaired** skin cells

CORRECT [if the conditional **were** important] by

supplying the **conditions**

After two days PRDX6 **could suppress** cell injury and repair skin cells **but only when the animals were provided with vitamin C**

After the alert, they were advised to check if the samples **could be** contaminated

ERROR **Semantics**: ambiguous, depending on the nature of the alert
so **this could be interpreted as** checking whether the samples

had been contaminated

or

were able to be contaminated

CORRECT [if the **former** is meant] by

replacing **could be** by **were** or **had been**

After the alert, they were advised to check if the samples **were/had been** contaminated

CORRECT [if the **latter** is meant] by

providing the **condition**

After the alert, they were advised to check if the samples **could be** contaminated under **the prevailing conditions**

replacing **could be** by **were able to be**

After the alert, they were advised to check if the samples **were able to be** contaminated

Could/couldn't care less

couldn't care less it **is not** possible to care less because you **do not care** at all I **couldn't care less** if she gets the award and emigrates

Could not but/help/help but

could not but	followed by a base infinitive	I could not but notice her tattoo
could not help	followed by a gerund	I could not help noticing her tattoo
could not help but	followed by a base infinitive	I could not help but notice her tattoo
to be unable to do anything else except		

Council/counsel

council	noun	an assembly of people	The University Council reported the current funding situation
counsel	noun	advice	The counsel given was to use degradable suture thread
	verb	to advise, to give advice	We were counselled to use degradable suture thread

Councillor/counsellor

councillor	a member of a council
counsellor	one who gives advice, one who counsels

Count/number

count	the number determined by counting
	the noun used as an adjunct is singular although what is counted may be plural
	A head count was made of those attending the lecture [a count of the heads ...]
	His sperm count was high [a count of the spermatozoa ...]
number	an arithmetical value representing a particular quantity
	with plural nouns
	About 40 people attended the lecture
	He had 120 million spermatozoa per ejaculate

See: [Concentration/count](#), [Digit/figure/number/numeral](#), [Numbers](#)

Count/present

count	verb	to determine the total number	The spermatozoa in the cauda epididymidis were counted
	noun	the number determined by counting	The epididymal sperm count was five million
present	adjective	to be in a particular place	Only five million spermatozoa were present in the cauda epididymidis

See: [Assess/count/estimate](#), [Concentration/count](#), [Count/number](#)

ALERT Check that **counted** or **present** is intended

One million progressively motile spermatozoa were **counted** in the native sample
 ERROR *Semantics*: probably untrue, as it would take a long time to count 1,000,000 spermatozoa
 CORRECT by **replacing counted by present**
 One million progressively motile spermatozoa were **present** in the native samples

The defensins **present** in the deletion have been shown to be expressed in distinct regions of the epididymis
 ERROR *Semantics*: if the defensins have been deleted they **cannot** be **present**
 CORRECT by **replacing present in the deletion by deleted**
 The defensins **deleted** have been shown to be expressed in distinct regions of the epididymis
 The **deleted** defensins have been shown to be expressed in distinct regions of the epididymis

Couple/couple of

couple	(formal) two people/things of the same sort	Of the interviewed students a couple are worth considering for the position
	(informal) an indefinite small number, some	I have some reprints do you want a couple ?
couple of	(formal) measure words, two, both	A couple of students apply for the post each year
	(informal) an indefinite small number of, some	I have a couple of questions for Dr Main

See: [A/the couple is/are](#), [A/the couple of... is/are](#)

Created the possibility that

Style: verbosity, can be shortened: replace by **allowed** (an action)/**enabled** (a person)/**made possible**

Credible/creditable/credulous

credible	of people	believable	He was a credible speaker
	of things	convincing	He gave a credible talk
creditable	of things	deserving acknowledgment, credit or praise	Her thesis was a creditable piece of work
credulous	of people	believing too readily	His credulous acceptance of every idea made him a poor reviewer
[only people can be credulous]			

See: [Incredible/incredulous](#)

Credibility/credulity

credibility	the quality of being credible	His credibility declined after being charged with plagiarism
credulity	the quality of being credulous	Her credulity made her unlikely to be a critical student

Criteria/criterion/guidelines

<i>criteria</i>	plural noun	standards by which something may be judged	The criteria we use are those of WHO (2010)
<i>criterion</i>	singular noun	one principal by which something may be judged	The most important criterion is that the text be understandable
<i>guidelines</i>		general rules, principles or advice	The WHO (2010) manual provides guidelines for safe lab. working

Criteria is/are
are **criteria** is a **plural** noun The **criteria** used here **are** the same as those used elsewhere

Criticise/critique
criticise verb to point out faults He **criticised** several aspects of the research
critique noun a detailed analysis and assessment His **critique** of the research was long
is not a verb

ALERT Check that **critique** **is not** used as a **verb**

This commentary is **to critique** the WHO semen analysis manual

ERROR *Syntax:* **critique** is a **noun** **not** a **verb**

CORRECT by

using critique as a **noun** and **inserting a verb**

This commentary is **to present** a **critique** of the WHO semen analysis manual

replacing to critique by a **verb**

This commentary is **to evaluate/examine/review critically** the WHO semen analysis manual

Crucial/necessary/obligatory

<i>crucial</i>	critical, especially in the success or failure of something	Obtaining grant funding is crucial for the research
<i>necessary</i>	needed to be done, achieved or present	He was given the necessary permission from the Ethics Committee
	determined by natural laws, inevitable	A necessary consequence of hypo-tonicity is cell swelling
<i>obligatory</i>	required by a legal, moral or other rules, compulsory	Use of sterile gloves and masks is obligatory in the culture room

Cryptorchid/cryptorchidic

<i>cryptorchid</i>	nominal adjective	a person suffering from cryptorchidism	The cryptorchids can apply for this arm of the study
	adjective	relating to cryptorchidism	He has a cryptorchid left testis

CT

See: CAT/CT

Cubed/squared

<i>cubed</i>	the product of a number multiplied by its square		
	two- cubed	the cube of two	= 2 x [2 x 2] = 2 ³ = 8
	three- cubed	the cube of three	= 3 x [3 x 3] = 3 ³ = 27
<i>squared</i>	the product of a number multiplied by itself		
	two- squared	the square of two	= 2 x [2] = 2 ² = 4
	three- squared	the square of three	= 3 x [3] = 3 ² = 9
	Chi- squared	the square of Chi	= $\chi \times [\chi] = \chi^2$

See: [Alphabet](#), [Exponentiation/logarithms](#), [Mathematical comparators/operators](#)

Cull/kill

<i>cull</i>	to reduce the size of a herd of animals by removing specific individuals	Herds were culled to increase genetic diversity
	does not mean kill	
<i>kill</i>	to deprive a living thing of life	The rats were killed by an overdose of ether

NOTE Herds and populations are **culled** by the **killing** of individual animals

See: [Euphemism/innuendo](#)

Cum/post hoc ergo propter hoc (Latin)

<i>cum hoc ergo propter hoc</i>	with this, therefore because of this		
	since event Y occurred together with event X, event Y must have been caused by event X		
	correlation implies causation although two events occur simultaneously or the chronology is unknown		
	a post hoc fallacy		
<i>post hoc ergo propter hoc</i>	after this, therefore because of this		
	since event Y followed event X, event Y must have been caused by event X		
	correlation implies causation because of their temporal relationship		
	a post hoc fallacy		

See: [Establishing cause and effect](#), [Illogical inferences of causation from correlation](#)

Cumulative adjectives

See: [Coordinate/cumulative adjectives](#)

Current

See: [Actual/current/present](#)

Currently

at the present time

ALERT Check that **currently** is *not* used with words *implying the present time*

Currently such methods are popular **today**

ERROR *Tautology*: as both **currently** and **today** mean at the present time, one word is **superfluous**

CORRECT by using **one or the other**, not both, by omitting **today**

Currently such methods are popular

omitting **currently**

Such methods are popular **today**

Curriculum vita/vitae (Latin)

<i>curriculum vitae</i> (CV)	a brief account of a person's education, qualifications and occupations	
	typically sent with a job application	He sent his curriculum vitae to the Dean by the end of the month
	plural curricula vitae	The students sent their curricula vitae in one envelope

See: [Coefficient of correlation/determination/regression/variation](#)

Customarily

as a matter of routine or common practice, normally, typically, usually He **customarily** read his emails as soon as he arrived in the lab.

See: [Certainty/uncertainty](#)

ALERT Check that **customarily** is *not* used with words *implying normality*

Customarily such cuts are **usually** imposed at the end of the fiscal year

ERROR *Tautology*: as both **customarily** and **usually** mean as a matter of routine, one word is **superfluous**

CORRECT by using **one or the other**, not both, by omitting **usually**

Customarily such cuts are imposed at the end of the fiscal year

omitting **customarily**

Such cuts are **usually** imposed at the end of the fiscal year

CV

See: [Coefficient of correlation/determination/regression/variation](#), [Curriculum vita/vitae](#)

Cyto-meter/-metric/-metry

<i>cytometer</i>	noun	an instrument for counting or assessing cells	Sperm concentration was assessed in a cytometer
<i>cytometric</i>	adjective	relating to a cytometer	They planned a cytometric study of sperm proteins
<i>cytometry</i>	noun	the method in which a cytometer is used	Sperm volume was measured by flow cytometry

Cytoplasmatic/cytoplasmic droplet

<i>cytoplasmic</i>	of the cytoplasm	Human spermatozoa do have a volume-regulating cytoplasmic droplet
<i>cytoplasmatic</i>	confusion with French, Italian	

See: [Back-formation](#)

Damage/damages

<i>damage</i>	noun	physical harm that impairs the normal function of something damage is a mass noun, which has no plural the plural form takes a partitive construction	Severe damage to the testis was done by EDL Signs of damage were seen in several organs after EDL
	verb	to inflict physical harm so as to impair its normal function	The microscope lens has been damaged
<i>damages</i>	noun	financial compensation claimed or awarded for loss or injury	He received damages for the hand injuries incurred
	verb	3 rd person singular of the verb to damage	Exposure to UV light damages your eyes

Dare

a **quasi modal** auxiliary verb

as lexical verb	followed by object to challenge (someone) to do something
as auxiliary verb	followed by a base or full infinitive to have the courage to

to express indignation

I **dare you** to apply for the position
He **dared to enter** the isotope lab.
He didn't **dare look**
How **dare** she **say** that?

See: [Auxiliary verbs](#), [Modal/non-modal/quasi-modal verbs](#)

Data is/are

<i>is</i>	for the mass noun	informal, non-scientific	
		when the data collection itself is the subject	Much data is being collected in many countries
<i>are</i>	for the plural count noun	formal, scientific	
		when what the data collection consists of (a plural group) is the subject	Many data are provided in the Supplementary Table

Data/readings

<i>data</i>	raw values after processing (averaging, transforming etc.)	The data were analysed for evidence of changes in osmolality with time
<i>readings</i>	the raw values obtained by measurement, facts	Osmolality readings were taken every half hour during the incubation

NOTE Data, **not** readings, can be used to support an argument

See: [Recorded/registered](#)

Data point/datum

<i>data point</i>	a piece of information, datum	count noun	Each data point <i>is</i> plotted on the y-axis against time on the x-axis
<i>datum</i>	a piece of information, data point	count noun	This unexpected datum <i>is</i> worth taking into account

See: [Greek/Latin plural and singular words](#)

Dative case

See: [Objective \(object\) case](#)

Day by day

Style: verbosity, replace by **daily/every day**

Day-old/days old

<i>day-old</i>	adjective attributive	hyphenated	day-old itself	One-day rats were used	(rats one day of age)
			day-old	One day-old rat was used	(a rat one day of age)
			one-day-old	One-day-old rats were studied	(rats one day of age)
			seven-day-old	Five seven-day-old mice were controls	(mice seven days of age)
	noun			The mouse was a three- day-old	
<i>days old</i>	adjective predicative	not hyphenated	one day old	Ten embryos, one day old , were used	(embryos one day of age)
			six days old	Five animals, six days old , were studied	(animals six days of age)

See: [Adjectives](#)

Day's time

Pleonasm: as **day** implies time, **time** is *superfluous*: use **day**

De/ipso facto (Latin)

<i>de facto</i>	adjective	holding a certain position in fact, but not necessarily by right	The de facto head of the institute chaired the meetings
	adverb	in fact, whether by right or not	The institute was de facto divided into two departments
<i>ipso facto</i>	adverb	by that very fact or act	The enemy of one's enemy may be <i>ipso facto</i> a friend

Dear price

Pleonasm: as **dear** means of high **price**, use **dear** or **high price**

Dearth/plethora

<i>dearth</i>	lack, limit, scarcity	There is a dearth of research on the function of epididymal osmolytes
<i>plethora</i>	a large amount or number, too many, too much	A plethora of reports describe the osmolytes in epididymal fluid

See: [Scant/scanty/scarce](#)

Debate

See: [Argue/debate](#)

Debris is/are

<i>is</i>	scattered pieces of rubbish or remains	
	debris is a mass noun, which has no plural	The debris <i>was</i> located around the broken equipment
	the plural form takes a partitive construction	Several areas of debris <i>were</i> found away from the broken equipment

See: [Count/mass nouns](#)

Decide

verb followed by a **full infinitive** I decided **to take** it

Decidedly/decisively

<i>decidedly</i>	definitely, clearly	It was a decidedly obvious attempt at committing fraud
<i>decisively</i>	making decisions quickly	As soon as he learnt of the fraud, he acted decisively to cut off funding

Decimal places/significant digits (figures)

<i>decimal places (dp)</i>	the number of digits counted to the right of the decimal point	
	123.456 3 dp 12.3456 4 dp 1.23456 5 dp	
<i>significant digits (sd)</i>	the number of digits counted from the first non-zero digit regardless of any decimal point	
	123.456 6 sd 12.3456 6 sd 1.23456 6 sd	

See: [Decimal numerals/places/points](#), [Significant digits](#)

Decimate

formal	to reduce by one tenth (formal)	
	does not mean to reduce to one tenth	
informal	to kill, destroy or remove a large proportion of	The inhabitants of the country had been decimated
	to reduce drastically the strength or effectiveness of	Public transport has been decimated

Decision

a resolution in the mind as a result of deliberation
[**only people** can make **decisions**]

ALERT Check that **decide** applies to people

Despite much research, the signalling molecules that mediate the **decision** of spermatogonia to differentiate remain unknown

ERROR *Syntax*: **spermatogonia** are **insentient and cannot** make decisions

CORRECT by

omitting to differentiate and **replacing decision** by **fate**

Despite much research, the signalling molecules that mediate the **fate** of spermatogonia remain unknown

replacing the **object** of the verb to mediate by a **genitive noun**

Despite much research, the signalling molecules that mediate **spermatogonial differentiation** remain unknown

Declarative/subjunctive moods

declarative mood deals with the completely factual
the action has occurred

It is important that the chairman **enjoys** the staff's confidence
[the chairman **does** enjoy the confidence of the staff (and this is important)]
It is right that the student **is** held to account for his plagiarism
[the student **is being** held to account (and this is correct)]

subjunctive mood deals with the doubtful, imaginative, fantasy
the action has not yet occurred

It is important that the chairman **enjoy** the staff's confidence
[the chairman **ought to** enjoy the confidence of the staff (but he may not)]
It is right that the student **be** held to account for his plagiarism
[the student **ought to** be held to account (but perhaps has not yet been)]

See: [Declarative \(indicative\) mood](#), [Moods of verbs](#), [Subjunctive mood](#)

Decline

verb intransitive to become smaller, fewer or less, to decrease

After vasovasostomy sperm numbers **declined**

transitive to refuse an invitation or offer politely

Caroline **declined** the position as Safety Officer

in grammar to state the forms of a noun, pronoun or adjective

(to conjugate)

corresponding to case, number and gender

The verb to be **is declined** as I am, You are, He/she/it is, We/You/They are

noun a gradual and continuous loss of strength or value

After the infection there is a reversible **decline** in sperm numbers

ALERT Check that **decline** *is not* used incorrectly

Asthenozoospermia is defined as **declined** sperm motility

ERROR *Syntax*: the past participle of the intransitive verb **is not** used as an adjective

CORRECT by

replacing declined by **decreased** or **reduced**

Asthenozoospermia is defined as **decreased/reduced** sperm motility

using decline as a **noun**

Asthenozoospermia is defined as a **decline** in sperm motility

Decontamination

See: [Cleaning/cleansing/disinfecting/sterilising](#)

Decrease

indicates a causal relationship, with time or after some manipulation

transitive verb with **object**

to **make** smaller in extent or number

active voice

Treatment with hypertonic medium **decreases cell size**

Busulphan treatment **decreased** testicular tubule **diameters**

passive voice

Cell size **is decreased by** hypertonic medium

Testicular tubule diameters **were decreased by** busulphan treatment

intransitive verb

to **become** smaller in extent or number

only active voice

Cell size **decreases** in hypertonic medium

Testicular tubule diameters **decrease** during busulphan treatment

See: [Intransitive/transitive verbs](#)

ALERT Check that **decreased** *is not* used for direct **comparisons**

The cell volume of niflumic acid-treated samples was **decreased compared with/in comparison with** that of untreated controls

ERROR *Syntax*: participles **are not** used for direct comparisons

CORRECT by

replacing decreased by **low**

The cell volume of niflumic acid-treated samples was **low compared with/in comparison with** that of untreated cells

replacing decreased compared/in comparison with by **below/lower than**

The cell volume of niflumic acid-treated samples was **below/lower than** that of untreated controls

Decreased/lower

decreased as a **participle** (verbal adjective) followed by

the preposition **by** and

a **causative agent** or process

Sperm motility was **decreased by centrifugation**

an **extent**

Sperm motility was **decreased by 10%**

lower

the **comparative** form of the adjective **low** followed by

the conjunction **than**

Sperm motility after centrifugation was **lower than** before

the preposition **after** with a **causative agent**

Sperm motility was **lower after centrifugation**

Decreased number of

Style: verbosity, can be shortened: replace by **fewer**

Decreased relative to

Style: verbosity, can be shortened: replace by **less than/lower than**

Deduce/deduct

<i>deduce</i>	to arrive at a fact or conclusion by reasoning	He deduced that quinine was affecting potassium channels involved in volume regulation
<i>deduct</i>	to subtract or take away a part from the total	He deducted the cost of meals from his travel fund application

Deduction/subtraction

<i>deduction</i>	a conclusion arrived at by reasoning taking away a part from the total, subtraction	His deduction was that quinine affected potassium volume regulation channels The deduction showed he had only HK\$ 50 left
<i>subtraction</i>	taking away a part from the total, deduction	By subtraction he knew there were only three gas cylinders remaining in the store

See: [Mathematical comparators/operators](#)

Deductive/inductive reasoning

<i>deductive</i>	involves necessary (top-down, a priori) arguments based on theory or logic (theoretical) inferring particular instances from a general law the conclusion must be correct if the premises [by definition] are true definition: all internal fertilisers have an epididymis observation: the rabbit is an internal fertiliser conclusion: the rabbit has an epididymis described by the verbs conclude demonstrate determine establish indicate prove reveal show	
<i>inductive</i>	involves probabilistic (bottom-up, a posteriori) arguments based on observations or experience (empirical) inferring general laws from particular instances the conclusion is probably true if the premises are statement: every student's first manuscript has grammatical errors observation: I've just been handed a student's first manuscript conclusion: I'm expecting to find grammatical errors in it described by the adjectives likely possible probable reasonable verbs assume believe conceive consider hypothesise postulate presume propose speculate suggest surmise	

See: [A priori/posteriori](#), [Empirical/theoretical](#)

Deem

to consider, to treat as

Defective/deficient

<i>defective</i>	imperfect, faulty, not working properly	The weighing scales were defective
<i>deficient</i>	incomplete, not having enough of some quality, some parts missing	The diet was deficient in vitamin C

Defence/defense

<i>defence</i>	the action of defending from or resisting attack	He spoke in defence of this thesis
<i>defense</i>	confusion with American English	

Definite/definitive

<i>definite</i>	exact, precise, unambiguous	It is definite that I shall hand in my thesis on Friday
<i>definitive</i>	conclusive, final	His book is the definitive work on epididymal sperm maturation

Definite/indefinite/no article

<i>definite article</i>	specific determiner, adjective <i>the</i> before words beginning with consonants what sound like consonants vowels abbreviations vowels (unless sounding like consonants) what sound like vowels abbreviations silent letters numbers symbols with count and non-count nouns that are specific (particular/definite/defined) items	the fivefold increase the university the unit the UN committee the epididymis the miRNA species the RGC application the hour the honorarium the 80 µl aliquot the ~(approximately) fivefold increase Spermatozoa underwent the acrosome reaction [a specific reaction of the acrosome] The acrosome-reacted spermatozoa penetrated the zona pellucida [only acrosome-reacted penetrated...] The capacitated spermatozoa underwent hyperactivation [only capacitated cells underwent...] The hyperactivated spermatozoa penetrated the cumulus oophorus [only hyperactivated cells penetrated...]
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		Use of the WHO semen analysis manual (2010) is recommended [only this manual is recommended]
		These men suffer from the OAT syndrome [only this syndrome]
	general items	I play the piano [any piano will do]
	positive statements	The positive staining was found in the Sertoli cells
	superlatives	The best/worst scientific report this year [there is only one superlative]
	when used for a series of terms , the is placed before each term	The scissors, the forceps or the haemostat
	before only the first [the others are assumed]	The scissors, [the] forceps or [the] haemostat
<i>indefinite article</i>	general determiner, adjective	
	<i>a</i> before words beginning with consonants (unless sounding like vowels) what sound like consonants	a fivefold increase a university , a unit a UN committee
	<i>an</i> before words beginning with vowels (unless sounding like consonants) what sound like vowels	an epididymis an miRNA species an RGC grant
	abbreviations	an hour an honorarium
	silent letters	an 80 µl aliquot
	numbers	an ~(approximately) fivefold increase
	symbols	
	only with count nouns that are	
	general (not particular/definite/defined) items	A capacitated spermatozoon can undergo hyperactivation [any capacitated spermatozoa...] A hyperactivated spermatozoon can penetrate the cumulus [any hyperactivated spermatozoa...] An acrosome-reacted spermatozoon can penetrate the zona [any acrosome-reacted spermatozoa..]
	one specific item	I have bought a mirror lens [any specific lens type lacking aberration]
	positive statements	A positive staining was found in the Sertoli cells
	negative statements	A positive staining was not observed in the controls
	when used for a series of terms , a/an is placed before each term	A pen, a pencil or an eraser
	before only the first [the others are assumed]	A pen, [a] pencil or [an] eraser
<i>no article</i>	neither definite nor indefinite article [Ø]	
	for count and mass nouns	
	general concepts	It is useful for studying Ødevelopmental biology She likes doing Øcell culture Semen comprises Øaccessory organ fluids and Øspermatozoa I enjoy correcting Øtheses, Ømanuscripts and Øgrants
	plural nouns in general	
	specific parameters, processes or data that themselves require the definite article	ØHuman semen was used [the semen of humans] ØSperm concentration was assessed in a Neubauer chamber [the concentration of spermatozoa] ØSperm motility was assessed by CASA [the motility of spermatozoa] ØSperm morphology was assessed from stained preparations [the morphology of spermatozoa] ØSperm vitality was assessed with eosin-nigrosin [the vitality of spermatozoa] ØOptimised RNA transfection was used [the optimised RNA transfection method] ØImmunogold detection was used [the immunogold detection process] Spermatozoa underwent Øcapacitation [the capacitation process] Spermatozoa displayed Øhyperactivation [the hyperactivation process] The laboratory should adopt ØWHO guidelines [guidelines issued by the WHO] These men suffer from ØOAT [the OAT syndrome] I used to work at ØEbo's Institute
	well known places or people	

See: [A/an historic](#), [A few/few](#), [A little/little](#), [Adjectives](#), [Definite/indefinite/no article](#), [Determiners](#), [Count/mass nouns](#), [Pronunciation of letters](#)

ALERT Check whether an **article** is needed when a **specific** term is referred to in a **general** way

The amount of secretion stored in the vesicular gland reached **the** plateau at 12–18 months

ERROR *Semantics*: use of the **definite** article implies a **specific** plateau, but the **Results** only presents **observations**

CORRECT by replacing the **definite** with the **indefinite article**

The amount of secretion stored in the vesicular gland reached **a** plateau at 12–18 months

The amount of secretion stored in the vesicular gland declined by more than 35% from **a** plateau at 12–18 months

ERROR *Semantics*: use of the **indefinite** article implies **no specific** plateau, but the *Discussion* deals with **facts** established in the Results
CORRECT by **replacing** the **indefinite** with the **definite article**

The amount of secretion stored in the vesicular gland declined by more than 35% from **the** plateau at 12–18 months

The cell apoptosis was measured 72 h after transfection

ERROR *Syntax*: as **cell apoptosis** is a defined process (**the** apoptosis of cells), it **needs no** additional **article (the)** before it
CORRECT by **omitting** the **definite article**

Cell apoptosis was measured 72 h after transfection

After **the** capacitation, spermatozoa displayed **the** hyperactivation

ERROR *Syntax*: capacitation and hyperactivation are both defined processes **that need no article**
CORRECT by

omitting the **definite articles**

After **capacitation**, spermatozoa displayed **hyperactivation**

inserting process

After **the capacitation process**, spermatozoa displayed **the hyperactivation process**

After **the** hyperactivation, spermatozoa displayed **ø**acrosome reaction

ERROR *Syntax*: **hyperactivation** is a defined process that **needs no** article; the **acrosome reaction** is a **specific process that needs one**
CORRECT by

moving the **definite article**

After hyperactivation, spermatozoa displayed **the** acrosome reaction

inserting process and a second **definite article**

After **the hyperactivation process**, spermatozoa displayed **the** acrosome reaction

Only mature spermatozoa have the potential to undergo **the** post-ejaculatory events

ERROR *Syntax*: as the post-ejaculatory events are **not specified**, **no article is required**

CORRECT by **omitting** the second **definite article**

Only mature spermatozoa have the potential to undergo **ø**post-ejaculatory events

Only mature spermatozoa have the potential to undergo post-ejaculatory events of capacitation and hyperactivation

ERROR *Syntax*: as the post-ejaculatory events listed are specified, **the definite article is required**

CORRECT by **inserting a definite article**

Only mature spermatozoa have the potential to undergo **the** post-ejaculatory events of capacitation and hyperactivation

Definitely proved

Pleonasm: as **proved** implies a definitive state, **definitely** is **superfluous**: use **proved**

Defuse/diffuse

<i>defuse</i>	verb	literally	to remove a fuse from explosives	The demolitions expert defused the bomb about 10 minutes later
		figuratively	to reduce the tension or danger	She managed eventually to defuse the situation
<i>diffuse</i>	adjective	spread out over a large area, not concentrated		The organ shows diffuse hyperplasia
		lacking clarity or conciseness		The second argument is more diffuse
	verb	to spread widely, to soften		His hypothesis diffused slowly through the scientific world
				Use a diffuse light to enhance the staining

Degradate/degrade

degrade to change into a simpler form Proteasomes **degrade** proteins by proteolysis

Degradated/degraded

degraded past tense of the verb to degrade Proteins are **degraded** by proteolysis in proteasomes

See: [Back-formation](#)

Degree/extent/rate

<i>degree</i>	the relative intensity or amount	The degree of spermatogenetic damage was dependent on the busulphan dose
<i>extent</i>	the absolute range over which something extends	The extent of spermatogenetic damage reached 60% of all tubule cross sections
<i>rate</i>	a measure, quantity or frequency	There was no difference in the fertility rate of women given various infertility treatments

See: [Frequency/rate/speed](#), [Interval/range](#)

ALERT Check if **rates** can be omitted

Spermatozoa from fertile men have **low rates** of DNA fragmentation **values**

ERROR *Tautology*: as a **rate** is a **value**, one term is **superfluous**

CORRECT by **using one or the other**, not both, by

omitting rates of

Spermatozoa from fertile men have **low** DNA fragmentation **values**

omitting values

Spermatozoa from fertile men have **low rates** of DNA fragmentation

Deliquescent/efflorescent

deliquescent of a solid, tending to absorb moisture from the air and dissolve in it **Deliquescent** agents reduce moisture in closed environments

efflorescent of a solid, tending to lose moisture to the air and turn to a fine powder **Efflorescent** agents increase humidity in enclosed chambers

Demand/request

demand noun an insistent and peremptory request, made as of right They made a series of **demands** for far-reaching reforms
verb to ask authoritatively or brusquely "Where is she?" he **demanded**
to insist on having The outraged staff **demanded** retribution
request noun an act of asking politely or formally Here is my **request** for information
verb to ask politely or formally They eventually received the information they had **requested**

See: [Interrogate/query/question](#)

Demi-

See: [Prefix list](#)

Demonstrate

to show, to report followed by the **declarative** mood This work **demonstrates** that A323187 **enhances** the acrosome reaction

See: [Claim/demonstrate/establish/show](#)

Demonstrate that

used when there is **sufficient evidence** for a conclusion to be drawn
expressed by the following verb in the **declarative** mood Here we have **demonstrated that** cells **are** lost because of apoptosis

See: [Certainty/uncertainty](#), [Moods of verbs](#)

ALERT Check that the verb following **demonstrate that** is in the **declarative** mood

We have **demonstrated that** the enzyme **could act** as a true ROS scavenger

ERROR *Oxymoron*: **demonstrate that** reflects **certainty** but the conditional **could** implies a **condition**

CORRECT [if there is **sufficient evidence**] by

using the **declarative** mood

We have **demonstrated that** the enzyme **acts** as a true ROS scavenger

CORRECT [if there is a **condition**] by

providing the **condition**

We have **demonstrated that** the enzyme **could act** as a true ROS scavenger **only if leukocytes are the source of ROS**

CORRECT [to emphasise **uncertainty**] by

omitting **We have demonstrated that**

The enzyme **could act** as a true ROS scavenger

Denature/denaturate

denature to change the natural qualities **Denature** the proteins with detergent before applying them to the separation gel

See: [Back-formation](#)

Denatured/denaturated

denatured past tense of the verb to denature The proteins were **denatured** by high concentration of detergent

See: [Back-formation](#)

Denaturation/denaturisation

denaturation The unfolding of protein 3D structure occurs during **denaturation**

Denominate numbers

numbers with units for measured quantities

See: [Counting/denominate/measurement numbers](#)

Denominator

divisor

See: [Mathematical comparators/operators](#)

Density/intensity

density the quantity of mass per unit volume The volume of semen (ml) is derived by dividing ejaculate weight (g) by **density**
the opacity of a photographic image The **density** of the western blot bands reflects the amount of protein in the gel
the degree of compactness of a substance After androgen withdrawal bone **density** was reduced substantially
does not mean concentration

intensity the measurable amount of a light, sound, colour The fluorescence **intensity** of the bound DNA dye reflects the chromatin content

See: [Intensity level](#), [Semen/sperm density](#), [Sperm concentration/density](#)

ALERT Check that **density** is the correct word

The **density** of the fluorescent signals reflect the abundance of the transcript

ERROR *Semantics*: fluorescent signals are not opaque

CORRECT by **replacing density** by **intensity**

The **intensity** of the fluorescent signals reflect the abundance of the transcript

Deny/refuse/refute

<i>deny</i>	to refuse to give something desired or requested to refuse to admit the truth of something accepted by the majority	The student denied us permission to cite his unpublished findings She denied any responsibility for the contamination
<i>refuse</i>	to indicate unwillingness to do something	The student refused to let us cite his unpublished findings
<i>refute</i>	to prove that something is false, with argument or evidence does not mean to deny	He refuted the claim that he had plagiarised his colleague's work

See: [Rebut/refute/repudiate](#)

ALERT Check that **deny** is the intended word

One volunteer **denied** to participate in the study
ERROR *Syntax*: **deny** requires an indirect object
CORRECT by **providing** an **indirect object**
 One volunteer **denied us** permission to enrol him in the study
replacing **deny** by **refuse**
 One volunteer **refused** to participate in the study

Dependence/dependency

<i>dependence</i>	contingent on, determined by	The epididymis shows a dependence on androgens
<i>dependency</i>	a country or province controlled by another	Hong Kong was formerly an overseas British dependency

ALERT Check that **dependency** refers to geography

These studies confirmed the androgen-**dependency** of the prostate gland
ERROR *Semantics*: the prostate **is not a country or province**
CORRECT by **replacing** **dependency** by **dependence**
 These studies confirmed the androgen-**dependence** of the prostate gland

Dependant/dependent

<i>dependant</i>	noun	someone who depends on another for support	There is tax-relief on expenditure to support his dependants
<i>dependent</i>	adjective	expressing a relationship between items/people	The rate of relief is dependent on income

Depict

to show or represent by a drawing to portray in words, to describe	This suggests that the pathway operates in the epididymis, as depicted in Fig. 1 The Epithelial-Mesenchymal Transition depicts well the interaction between E-cadherin and β -catenin
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Deplete/reduce

<i>deplete</i>	made smaller, usually with an injurious connotation	The monkey population was depleted by sickness
<i>reduce</i>	made smaller, usually by deliberate policy	The monkey population was reduced by administrative order

Deprecate/depreciate

<i>deprecate</i>	to express disapproval of
<i>depreciate</i>	to lessen in value

Deproteinise/deproteinise

<i>deproteinise</i>	Deproteinise the samples before gas chromatography
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See: [Back-formation](#)

Deproteinised/deproteinised

<i>deproteinised</i>	The samples are deproteinised before injection into the chromatograph
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See: [Back-formation](#)

Depth/height/length/width

<i>depth</i>	the vertical distance from top to bottom (the X-axis) the horizontal distance from back to front (the Y-axis) of a 3D object	The counting chamber has a depth of 10 μm The oven should fit on a bench if it is of 15 cm depth
<i>height</i>	the vertical distance from bottom to top (the X-axis)	The cover slip is supported at a height of 10 μm above the slide
<i>length</i>	the horizontal distance from end to end; the greater of the X and Y axes	The coverslip used for a 20 μm deep chamber is 26 mm in length
<i>width</i>	the horizontal distance from side to side; the lesser of the X and Y axes	The coverslip used for a 33 μm deep chamber is 24 mm in width

See: [Microscopy](#)

Deregulated/unregulated

<i>deregulated</i>	formerly regulated, but now no longer	the regulations have been removed
<i>unregulated</i>	not regulated	there are no regulations

Descent

See: [Ascend/descend](#)

Describe/report/state

<i>describe</i>	to give a detailed spoken or written account of	methods	We described the methods in the Appendix
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report to give a detailed spoken or written account of something specific We **reported** what happened at the meeting last week
state to express something definitely, fully and clearly in speech or writing He **stated** that our report needed to be rewritten

See: [Claim/demonstrate/establish/show](#)

ALERT Check whether **described** is the **best word** to convey your message

Irwin has **described** that addition of A23187 to spermatozoa induces hyperactivation

ERROR *Semantics*: **describe** **does not** introduce something specific

CORRECT by

replacing **described** by **reported**

Irwin has **reported** that addition of A23187 to spermatozoa induces hyperactivation

replacing **described** by **stated**

Irwin has **stated** that addition of A23187 to spermatozoa induces hyperactivation

providing **details of what was done and observed**

Irwin has **described** how sperm motility **increased after A23187 was added**

Descriptive/non-descriptive adjectives

descriptive simple, complex

non-descriptive determiners

See: [Adjectives, Determiners](#)

Descriptive/prescriptive/proscriptive grammar

descriptive the language structure as it is actually used **It's me** is used colloquially

prescriptive the language structure restricted by rules **It's I** is correct: the verb **to be** is a linking verb taking a nominative subject complement

proscriptive lists forbidden or condemned English usage **Proscriptive** rules define the use of **me** as complement to be a solecism

See: [Colloquialism/dialect/jargon/slang/Standard English](#), [Complements of verbs](#), [Linking verbs](#), [Solecism](#)

Despite/in spite of

despite preposition

without being affected by, in spite of

followed by a

gerund

noun

noun phrase

pronoun

Despite having a headache, I got through my talk satisfactorily

He remains active in science **despite** his **age**

Despite the fact that he had a headache, he got through his talk satisfactorily

The train was delayed; **despite that**, we arrived on time

in spite of

prepositional phrase

without being affected by, despite

followed by a

gerund

noun

noun phrase

pronoun

In spite of adding the wrong antibiotics, I managed to keep the cultures alive

In spite of the trains' **cancellation**, we arrived on time

In spite of the fact that he added the wrong antibiotics, he kept the cultures alive

The lab. was cold but we continued **in spite of it**

See: [Although/even though/though](#)

ALERT Check that **despite** is meant

Many protein bands were present in all regions **despite** a few bands were region-specific

ERROR *Syntax*: **despite** is a **preposition** being used as a **conjunction** to join two clauses

CORRECT by

replacing **despite** by **although**

Many protein bands were present in all regions **although** a few bands were region-specific

replacing **were** by **being**

Many protein bands were present in all regions **despite** a few bands **being** region-specific

ALERT Check the verb following **despite**

This implies that **despite** 93% of students are satisfied with their current studies, 40% still plan to change courses

ERROR *Syntax*: despite is followed by a non-finite verb

CORRECT by

replacing **despite** by **although**

This implies that **although** 93% of students are satisfied with their current studies, 40% still plan to change courses

replacing **despite** by **despite the fact that**

This implies that **despite the fact that** 93% of students are satisfied with their current studies, 40% still plan to change courses

replacing **are** by **being** and **students** by **students'**

This implies that **despite** 93% of students' **being** satisfied with their current studies, 40% still plan to change courses

Despite the fact that

Style: verbosity, can be shortened: replace by **although**

Destroy/destruct

destroy to end the existence of something by damaging or attacking it

See: [Back-formation](#)

Destroyed/destroyed

destroyed past participle of the verb **to destroy**

See: [Back-formation](#)

Detect/determine/examine/inspect

<i>detect</i>	to discover something upon observation not necessarily a deliberate search	Ciliary tufts were detected in the semen of the men with partial ductal occlusion
<i>determine</i>	to ascertain exactly by research a deliberate search	He determined semen volume by weighing the sample
<i>examine</i>	to inspect thoroughly to determine a condition a deliberate search	The semen of men with partial ductal occlusion was examined for ciliary tufts
<i>inspect</i>	to look closely to discover shortcomings a deliberate search	The microscope was inspected to see if the lens was scratched

See: [Determine/measure/test](#)

ALERT Check that **detect** is the **intended word**

The pelleted spermatozoa were **detected by** indirect immuno-fluorescence

ERROR *Semantics*: ambiguous, **it is unclear** whether the **method** or **presence** or **pattern** of immuno-fluorescent signals is important

CORRECT [if the immuno-fluorescence **method** is to be emphasised] by
replacing **by** with **by using**
The pelleted spermatozoa were **detected by using** indirect immuno-fluorescence

CORRECT [if the immuno-fluorescence indicates the **presence** of spermatozoa among other cells] by
replacing **by** with **from**
The pelleted spermatozoa were **detected from** their indirect immuno-fluorescence

CORRECT [if the **pattern** of immuno-fluorescent signals indicates the state of the cells] by
replacing **detected by** **examined for** and mentioning a **the pattern**
The pelleted spermatozoa were **examined for the acrosomal location of the** indirect immuno-fluorescence

Determine/measure/test

<i>determine</i>	to ascertain exactly by research or calculation	He determined semen volume by weighing the sample
<i>measure</i>	to ascertain the value using a device calibrated in standard units	She measured sperm velocity by CASA
<i>test</i>	to examine by means of a reagent to take measures to check the performance	The technician tested the pH of semen by indicator paper She tested the repaired mixer before returning it to the lab.

See: [Detect/determine/examine/inspect](#)

Determined that

used when there is **sufficient evidence** for a conclusion to be drawn
expressed by the following verb in the **declarative** mood These results have **determined that** cells **are** lost because of apoptosis

See: [Certainty/uncertainty](#)

ALERT Check that the verb following **determined that** is in the **declarative** mood

We have **determined that** the changes in movement **may be** associated with chemotaxis

ERROR *Oxymoron*: **determine that** reflects **certainty** but **may be** indicates **uncertainty**

CORRECT [if there is **sufficient** evidence] by
using the **declarative** mood
We have **determined that** the changes in movement **are** associated with chemotaxis

CORRECT [to emphasise **uncertainty**] by
omitting **We have determined that**
The changes in movement **may be** associated with chemotaxis

Determiners

See: [Modifiers/determiners/adverbials](#)

Development/production

<i>development</i>	the process of modifying something that exists	Spermatid development occurs in the seminiferous tubule lumen
<i>production</i>	the process of making something that does not exist	Sperm production occurs in the testis

ALERT Check whether **development** is the **best word** to convey your message

The agent that stimulates sperm motility could be used in the **development** of more two-cell embryos

ERROR *Semantics*: this means that the agent acts to develop **already-existing** two-cell embryos

CORRECT [if the greater **sperm motility** increases fertilisation, which **leads to** more embryos] by
replacing **development** by **production**
The agent that stimulates sperm motility could be used in the **production of** more two-cell embryos

Device/devise

<i>device</i>	noun	something made or adapted for a particular purpose or aim especially mechanical or electrical a form of words designed to produce a certain effect	The vortex mixer is a novel mixing device Repetition and alliteration are rhetorical devices
<i>devise</i>	verb	to plan or invent by careful thought	To solve this problem a training programme should be devised

Dewaxation/dewaxing

dewaxing the removal of wax Paraffin is removed from tissue sections by dewaxing staining

Di-

See: [Greek/Latin numerical prefixes](#), [Prefix list](#)

Diacritics

See: [Pronunciation of letters](#)

Diaeresis

See: [Pronunciation of letters](#)

Diagnose/prognosticate

diagnose to identify the nature of a condition by examination of the symptoms He was **diagnosed** with testicular cancer
prognosticate to foretell, to prophesy, especially for the outcome of a disease The doctor **prognosticated** a slow recovery

Diagnosis/prognosis

diagnosis the identification and definition of a disease
 applies to **conditions not** people The doctor's **diagnosis** was **prostatic cancer**
prognosis a prediction of the course and outcome of a disease
 applies to **people not** conditions The **patient's prognosis** was not good
 a prediction of the likely outcome of a specific procedure
 applies to **methods not** people The **surgical prognosis** is good

Diagnostic/diagnostics/prognostic

diagnostic adjective concerned with the diagnosis of illness or other problems Several infections are **diagnostic** of AIDS
 noun a distinctive symptom or characteristic This combination of gene expression is a **diagnostic** of cancer
diagnostics noun the practice or techniques of diagnosis This clinic uses advanced medical **diagnostics**
prognostic adjective serving to predict the likely course of a medical condition Their **prognostic** importance is in cancer detection

Diagnostics is/are

is **diagnostics** is a **plural** noun treated as **singular** The **diagnostics** of many form of cancer **is** well-developed

Dialysation/dialysis

dialysis **Dialysis** can be used to remove small molecules and ions from macromolecules before subsequent analysis

See: [Back-formation](#)

Dialysated/dialysed

dialysed Proteins samples were **dialysed** before gel electrophoresis

See: [Back-formation](#)

Dictate/necessitate/urge

dictate to control or decisively effect, to determine The results **dictate** a caution interpretation
necessitate to make something necessary as a consequence The large number of samples **necessitated** an automated assay
urge to try earnestly to persuade someone to do something I **urge** caution in interpreting these results
 [only people can urge others]

See: [Convince/persuade](#)

ALERT Check that **urge** applies to people

The lack of data on SHBG variations **urges** caution against generalisation of our assumption

ERROR Syntax: **data** are **insentient** and **cannot** urge anyone to do anything

CORRECT by

replacing **urge** by **verbs** compatible with **insentient objects**

The lack of data on SHBG variations **necessitates/requires** caution against generalisation of our assumption

supplying a **human element**

The lack of data on SHBG variations **makes us urge** caution against generalisation of our assumption

Die for/of

for a belief, a cause He was prepared to die **for** his anti-vivisection beliefs
 a friend He was prepared to die **for** his anti-vivisectionist friend
of a cause The rats died **of** starvation

Differ/diverge/vary

differ to be dissimilar to note differences between items of **similar type**, to vary Our replicate **values differ** by 2%
Spermatozoa differ in length
 to be distinct to note differences between items of **dissimilar type** **Cilia differ** from **flagella**
diverge literal to separate and go in another direction The flight **diverged** from the planned because of rain
 figurative to move apart After graduation their careers **diverged**
does not mean a difference
vary to be dissimilar to note differences between items of **similar type**, to differ Our replicate **values vary** from **5 to 7**
Spermatozoa vary in length

to become different for things undergoing change

Randomisation results from **varying** treatment order

See: [Change/differ, Various/varying](#)

ALERT Check that **vary** is the intended word

The intensity of the sperm protein band did not **vary** significantly from caput to cauda
ERROR *Syntax*: a comparison of two epididymal regions involves a difference
CORRECT by **replacing vary** by **differ**
 The intensity of the sperm protein band did not **differ** significantly from caput to cauda

Differ by/for/from/in/with

by	extent	The values differ by more than 10%
for	a subgroup	The protocols differ for normo- and astheno-zoo-spermic semen
from	compared items	Our results differ from theirs
in	a characteristic	These samples differ in sperm morphology
with	a person	I differ with my supervisor on what experiments to do next

Difference/discrepancy/variation

difference	the state of being different, distinct between objects	I note a difference in leukocyte ROS production by treated and control groups
discrepancy	the state of being discrepant a difference when values should be the same	There was a discrepancy between the student's and technician's motility results
variation	the existence of small changes in amount within or between objects	The high variation in testosterone concentrations during the day is well known There is a large variation in semen quality among patients and fathers

See: [Accuracy/dispersion/precision, Analysis of categorical data, Coefficient of correlation/determination/regression/variation](#)

ALERT Check that **discrepancy** is the intended word

There was a significant **discrepancy** in ROS production by leukocytes from treated and control groups
ERROR *Semantics*: this implies that similar ROS production by treated and control leukocytes **was expected but not found**
CORRECT [if there are **no** prior expectations] by
replacing discrepancy by **difference**
 There was a significant **difference** in ROS production by leukocytes from treated and control groups

Different

not the same as another or each other, distinct, separate, unlike in nature or quality

NOTE *Overused word*: often used unnecessarily [**omit**]

See: [Differ/diverge/vary](#)

ALERT Check that **different** is needed

Optimal conditions were determined from comparison of the two **different** media
ERROR *Tautology*: as both **two** and **different** imply separate items, one word is **superfluous**
CORRECT by **using one or the other**, not both, by
omitting different

Optimal conditions were determined from comparison of the **two** media
omitting two
 Optimal conditions were determined from comparison of the **different** media

More solid evidence is needed to prove epididymal CSCs exist by using **different** means **other than** the sphere-forming assay
ERROR *Tautology*: as an assay **other than** the sphere-forming one is a **different** method, one word is **superfluous**
CORRECT by **using one or the other**, not both, by
replacing other than by **from**
 More solid evidence is needed to prove epididymal CSCs exist by using **different** means **from** the sphere-forming assay
omitting different

More solid evidence is needed to prove epididymal CSCs exist by using means **other than** the sphere-forming assay

Different/differential/differing

different	adjective	not the same as, distinct, separate, other than, unlike	The enzymes came from a different batch
differential	adjective	constituting a specific difference, distinctive	There are differential features of benign and malignant cells
differing	participle	differences changing with time or conditions	The students had differing views on how to study the problem

ALERT Check that **differing** is in then **intended word**

Those using the recommended methods produced better results than those using **differing** techniques
ERROR *Syntax*: differing techniques are changing techniques
CORRECT [if the techniques are fixed but **different**] by
replacing differing by **different**
 Those using the recommended methods produced better results than those using **different** techniques

Different for/from/in/than

<i>for</i>	with a subgroup	The protocols are different for normo- and astheno-zoospermic semen
<i>from</i>	with compared items (other than, unlike)	The assessment of normozoospermia is different from that for asthenozoospermia
<i>in</i>	with a characteristic	These samples are different in morphology but not motility or vitality
<i>than</i>	confusion with American English	

See: [Differ by/for/from/in/with](#)

Differentiate/distinguish/recognise

<i>differentiate</i>	to recognize what makes things different to identify differences between two or more items [only people can differentiate things]	An astute student can differentiate an association from a causal relationship He is able to differentiate between gerunds and present participles
<i>distinguish</i>	to be an identifying characteristic or mark to recognise as different, to point out a difference [only people can distinguish things]	What distinguishes the efferent ducts from the caput is the pigmentation Can you distinguish between grade a and grade b spermatozoa?
<i>recognise</i>	to identify from knowledge of appearance or character to acknowledge the validity or competence of	You can recognise the unusual form of the guinea pig epididymis Our qualifications are recognised by the University Entrance Board

See: [Discriminate against/between/from](#)

ALERT Check that the subject of the sentence is capable of **differentiating**

Sperm vacuoles cannot **differentiate** fertile from infertile men

ERROR Syntax: **vacuoles** are **insentient and cannot** differentiate anything

CORRECT by **implying a human element** by use of the **passive**

Sperm vacuoles cannot **be used to differentiate** fertile from infertile men

ALERT Check that the subject of the sentence is capable of **distinguishing**

Sperm vacuoles cannot **distinguish** fertile from infertile men

ERROR Syntax: **vacuoles** are **insentient and cannot** distinguish anything

CORRECT by **implying a human element** by use of the **passive**

Sperm vacuoles cannot **be used to distinguish** fertile from infertile men

Differential/differentiated

<i>differential</i>	depending on a difference that varies according to relevant factors The differential effects of hormones on the proximal and distal epididymis reflect their hormone receptor type	
<i>differentiated</i>	recognised as making different The proximal epididymis is differentiated from the distal by its greater epithelial height made different in the process of growth or development The efferent ducts and vas deferens are differentiated from the mesonephric and Wolffian ducts, respectively	

Differing/diverging

<i>differing</i>	differences changing with time or conditions	With time the students developed differing views on how to study the problem
<i>diverging</i>	moving further apart literal figurative	The bad weather caused the plane to diverge from the original flight plans Their research topics had diverged since leaving university

Difficulty

the state of being difficult, perplexity, problem, quandary

Diffuse

See: [Defuse/diffuse](#)

Dilatation/dilate/dilation

<i>dilatation</i>	noun	the process of becoming dilated, the action of dilating a vessel	This involves drug-induced dilatation of the blood vessels
<i>dilate</i>	verb	to make, be or become wider, larger or more open	After adding the drug the blood vessels became dilated
<i>dilation</i>	noun	being distended beyond normal dimensions	The dilation of the blood vessels was caused by the drug

ALERT Check that **dilatation** is the intended word

The epididymis of the H-ras transgenic mice exhibited tubular **dilatation**

ERROR Syntax: this implies that the **epididymal tubule** was dilating something

CORRECT [if the transgenic tubule **was dilated**] by

replacing dilatation by dilation

The epididymis of the H-ras transgenic mice exhibited tubular **dilation**

Dilemma

See: [Choice/dilemma](#)

Dilution

adding **solvent** alone to a solution of **solute** in solvent

to reduce solute concentration

a dilution of **1:1** [or **(1-to-1)**] involves adding one part to one part **(1+1)**, giving a total of **2** parts and a proportion of **1/2** or **(1-in-2)**

mixing **buffers** of the same concentration

to alter pH without changing solute concentration

0.02 M NaH₂PO₄ is a weak acid NaH₂PO₄⁻ + H₂O -> H₃O⁺ + NaHPO₄²⁻

0.02 M Na₂HPO₄ is a weak base Na₂HPO₄⁻ + H₃O⁺ -> Na₂H₂PO₄

mixed together there is effective buffering of 0.02 M phosphate buffer at pH 7.0

NOTE a **1:3 (1-to-3)** dilution **is not** the same as a **1/3 (1-in-3)** dilution

See: [Concentration/dilution](#), [Fraction/percentage/proportion/ratio](#)

Dimensions

are measured in **denominate** numbers (numbers with units)

written with **numerals**, not words

The coverslip used was **22 mm x 22 mm**

used with **less than** **not fewer than**

The value was **less than 3% / 5°C / 1.5 ml / €50 / 20 g / 10 sec / 2 cm / 15 [years old]**

See: [Counting/denominate/measurement numbers](#), [Depth/height/length/width](#), [Numbers](#)

Diminishment/diminution

diminution The disease shows no signs of **diminution** with time of treatment

See: [Back-formation](#)

Direct/directly

direct adjective moving in a straight line, by the shortest route

He was asked to report **direct** to the Director

[to go straight there]

directly adverb at once, without delay

He was asked to report **directly** to the Director

[to go at once]

Direct/indirect objects

direct of a mono-transitive **verb**

a **simple** object

I **sharpened** the scissors

a **compound** object

more than one **object**

I **sharpened** the scissors and scalpel

of a ditransitive **verb**

as **object before a preposition**

I **gave** the scissors **to** the technician]

The technician **handed** the forceps **to** me

as **second object** with **no** preposition

I **gave** the technician **the scissors**

The technician **handed** me **the forceps**

indirect (oblique) of a ditransitive **verb**

as **first object** with **no** preposition

I **gave** **the technician** the scissors

The technician **handed** **me** the forceps

as **object after a preposition**

I **gave** **to the technician** the scissors

The technician **handed** **to me** the forceps

I gave the scissors **to the technician**

The technician handed the forceps **to me**

See: [Intransitive/transitive verbs](#), [Inverted commas](#), [Nominative \(subject\) case](#), [Objective \(object\) case](#), [Verbs](#)

Dis-/dys-

See: [Prefix list](#)

Disagree on/with

on something She disagreed **on** whether to work on Sunday

with someone She disagreed **with** the director

Disappear

to cease to appear (of a previously existing object)

does not mean never appeared

ALERT Check that **disappear** **is not** used to mean **never appeared**

In the presence of an inhibitor blocking the chemotactic cascade, cells displaying chemotactic behaviour **disappeared**

ERROR *Semantics*: this implies that the chemotactic cells **were initially present** and then were no longer observed

CORRECT [if the chemotactic cells **were initially observed** in the medium before inhibitor addition] by

replacing **disappeared** by **were no longer observed**

In the presence of an inhibitor blocking the chemotactic cascade, cells displaying chemotactic behaviour **were no longer observed**

CORRECT [if the chemotactic cells **never appeared** at all in inhibitor-containing medium] by

replacing **disappeared** by **were never observed**

In the presence of an inhibitor blocking the chemotactic cascade, cells performing chemotactic behaviour **were never observed**

Disappointed in/with

in something He was disappointed **in** the results of the exam

with someone He was disappointed **with** the examiner's comments

Disapprove/disprove

disapprove intransitive verb to have or express an unfavourable opinion

He **disapproved** of students using mobile phones during lectures

transitive verb officially to refuse to agree to

The chairman has the right to **disapprove** your claim of plagiarism

disprove transitive verb to prove that something is false

The results support our view that your theory has been **disproved**

[**only people** can **disprove** something]

ALERT Check that **disprove** relates to an object capable of disproving something

Figure 5 **disproves** the theory that many androgen-receptor CAG repeats decrease androgen action

ERROR *Syntax*: a **Figure** is **insentient and cannot** disprove anything

CORRECT by **accepting** that **the data** in the Figure **present evidence** may be interpreted to disprove something

The **shape of the curve** in Figure 5 **disproves** the theory that many androgen-receptor CAG repeats decrease androgen action

Disassociate/dissociate

dissociate to disconnect or separate the opposite of associate

See: [Back-formation](#)

Disassociated/dissociated

dissociated past participle of the verb **to dissociate** the opposite of associated

See: [Back-formation](#)

Disc/disk

<i>disc</i>	for machinery for recording	disc brakes compact disc (CD)	digital versatile disc (DVD)	blu-ray disc (BRD)
<i>disk</i>	for anatomy for computer storage	slipped disk hard disk		

Disconnect

to cut off, to separate

Discontinue

to end, to stop

Discourtesy

showing rudeness and a lack of consideration for other people
expressed when the use of English insults the intelligence of the reader
requires the reader to re-read the text to understand what is meant to know more than the writer

See: ['And/or', Grammar/style](#), ['He/she', 'Her/his'](#)

Discreet/discrete

<i>discreet</i>	careful behaviour in speech and conduct	As patient's information is confidential, be discreet when talking in the reception area
<i>discrete</i>	individually separate and distinct	Subjects in the study were assigned randomly to discrete groups

Discrepancy

See: [Difference/discrepancy/variation](#)

Discriminate against/between/from

<i>against</i>	to make a prejudicial distinction in the treatment of people	The club's current dress code discriminates against men
<i>between</i>	to recognize a distinction, to differentiate	You should be able to discriminate between different types of epithelial cell
<i>from</i>	to perceive or constitute the difference	These features discriminate the guinea pig epididymis from that of others

See: [Difference/discrepancy/variation](#), [Differentiate/distinguish/recognise](#)

Disgracefully

adverb used to describe

verbs	placed after the verb	He failed every exam disgracefully [How he failed (by a wide margin) is described]
whole clauses	at the sentence beginning, before the verb	Disgracefully , he failed every exam [It was disgraceful that he failed every exam]

See: [Position of adverbs](#)

Disinfection

See: [Cleaning/cleansing/disinfecting/sterilising](#)

Disingenuous/ingenious/ingenuous

<i>disingenuous</i>	not candid, honest, innocent or sincere pretending to know less than one does [only people can be disingenuous]	It is disingenuous to claim that these data support your hypothesis
<i>ingenious</i>	clever, inventive of a person or thing	His theory, while ingenious , is clearly impractical
<i>ingenuous</i>	innocent, unsuspecting of a person [only people can be ingenuous]	In pushing his theory she is either amazingly ingenuous or very cunning

Disinterested/uninterested

<i>disinterested</i>	impartial, with no stake in the outcome	Medical staff are required to be disinterested when dealing with patients
<i>uninterested</i>	not interested, indifferent, unconcerned	Patients with depression are often uninterested in their surroundings

Disjunct adverbials

See: [Adverbials](#)

Disk

See: [Disc/disk](#)

Desperate/disparate

desperate involving despair

	feeling a hopeless sense that a situation is impossible to deal with tried in despair when everything else has failed extremely serious or dangerous	A desperate sadness enveloped Ruth This was a desperate attempt to save the cells There is a desperate shortage of technicians
<i>disparate</i>	contrasting, different, unequal, unlike, not able to be compared	The students and lecturers inhabit disparate worlds of thought

Disjunction/nondisjunction

<i>disjunction</i>	the separation during anaphase of cell division of homologous chromosomes in meiosis I sister chromatids in meiosis II, mitosis leading to euploidy two diploid cells two double haploid spermatocytes/oocytes two haploid spermatids/ooids one diploid zygote	when in mitosis when in meiosis I when in meiosis II at fertilisation
<i>nondisjunction</i>	the failure of separation during anaphase of cell division of homologous chromosomes if in meiosis I sister chromatids if in meiosis II, mitosis leading to aneuploidy one cell with two sister chromatids one spermatocyte/oocyte with two homologous chromosomes one spermatid/ooid with two sister chromatids one zygote with monosomy or trisomy	if in mitosis if in meiosis I if in meiosis II at fertilisation

See: [Mitosis/meiosis](#), [Ploidy](#)

Dispense

to distribute or provide a service or information to people	The orderlies went round dispensing drinks
to prepare and give out medicine according to a doctor's prescription	He was stopped from dispensing prescriptions
to manage without, to do away with, to get rid of	Let's dispense with the formalities, shall we?

See: [Puns](#)

Dispersion

See: [Accuracy/dispersion/precision](#), [Analysis of categorical data](#), [Coefficient of correlation/determination/regression/variation](#), [Statistical variance](#)

Display

to put something in a prominent place so it can be seen
[**only people** can **display** results]

ALERT Check that **displays** relates to an object **capable of displaying something**

Figure 3 **displays** epididymal weight as a function of serum androgens

ERROR Syntax: a **Figure** is **insentient and cannot** make displays

CORRECT by

inserting a **human element**

We present epididymal weight as a function of serum androgens in Figure 3

changing the **verb** from the **active** to **passive** voice

Epididymal weight as a function of serum androgens **are displayed** in Figure 3

Disprove

See: [Disapprove/disprove](#)

Dissatisfied/unsatisfied

<i>dissatisfied</i>	discontented, displeased	She was dissatisfied with the suggestion that she had to work on Sundays
<i>unsatisfied</i>	not satisfied	He was unsatisfied with the methods used in the study, which had several flaws

Dissect

See: [Bisect/dissect](#)

Dissector/dissector

See: [Bisector/dissector/dissector](#)

Dissolve/melt

<i>dissolve</i>	of a solid, liquid or gas	to become or cause to become incorporated into a liquid that becomes a solution
<i>melt</i>	of a solid	to become or make liquefied by heat

See: [Condensation/evaporation/sublimation](#), [Emulsion/solution/suspension](#), [Freezing/melting/thawing](#)

Distil/distill

<i>distil</i>	to purify a liquid by condensing its vapour past tense, past participle present participle, gerund	Use a vacuum device to distil the sample, to prove it is $^3\text{H}_2\text{O}$ distilled distilling
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Distinguish

See: [Differentiate/distinguish/recognise](#)

*Di-transitive verbs*See: [Intransitive/transitive verbs](#)*Diverge*See: [Differ/diverge/vary](#)*Diverse/diversified*

diverse very different, showing a great deal of variety
diversified to have been made or become more diverse

Diverse methods have been applied to this problem
 Evolutionarily the male tract **diversified** into those with and without an epididymis

*Division*See: [Mathematical comparators/operators](#)*Do*a **lexical verb** with an **object**

to perform an action

She **does** the *RT-PCR*a **non-modal auxiliary verb** followed by a **base infinitive**

for commands

Do go ahead**Don't wait** for me

for emphasis

She **does work** hardin forming interrogatives of **lexical verbs****Does** she **work** on stem cells?in forming negatives of **lexical verbs****Do** you **have** any scissors? [if there is **doubt** whether or not there are scissors]She **does not work** on the epididymisSee: [Light/phrasal verbs](#), [Negation of verbs](#)*Do not/don't*

do not negative of **to do** (formal)
don't contraction of **do not** (informal)

the written word

the spoken word, **layman terminology**I **do not** consider this acceptableYou **don't** work weekendsSee: [Abbreviation/acronym/contraction/initialism](#), [Can not/cannot/can't](#), [Does not/doesn't](#)*Does not/doesn't*

does not negative of **to do** (formal)
doesn't contraction of **does not** (informal)

the written word

the spoken word, **layman terminology**He **does not** consider this a valid argumentShe **doesn't** work on weekendsSee: [Abbreviation/acronym/contraction/initialism](#), [Can not/cannot/can't](#), [Do not/don't](#)*Donator/donor**donor* a person who donates something; biological samples or money to charitySee: [Back-formation](#)*Done*

past participle of the verb to do

NOTE *Vague word*: often used unnecessarily, replace by **what was done** [or omit]See: [Conducted](#), [Overused words](#), [Study](#), [Using](#)**ALERT** Check whether **done** should be **replaced** by a **more informative word****Co-localisation** of proteins was **done** by confocal microscopy**STYLE** *Verbosity*: can be shortened**CHANGE** by **omitting done** and**replacing** the **noun** by its related **verb**Proteins were **co-localised** by confocal microscopy*Dosage*See: [Concentration/dosage/dose](#)*Dose*See: [Concentration/dosage/dose](#)*Dose/dosis*

dose a quantity of medicine taken or amount of radiation received
dosis confusion with **German**

*Double/twice**double* adjective **two** timesof **two** parts**two** times in succession

for actions

for numbers

adverb **twice**

as many

as much

verb to increase by a factor of **two**Use **double**-strength mediumunsaturated fats have a **double** bondAlways make a **double** checkHis phone number is 5-3-7-4-**double** zero [537400]After treatment there were **double the number of** spermatozoaAfter treatment there was **double the volume of** semen

		intransitive		The sperm count doubled after hormone treatment
		transitive	active	Hormone treatment doubled the sperm count
			passive	The sperm count was doubled by hormone treatment
	pronoun	a twice as large number or amount		You can pay double and get a room to yourself
<i>twice</i>	adverb	two times, twice	as many	After treatment there were twice the number of spermatozoa
			as much	After treatment there was twice the volume of semen
		on two occasions		The spermatozoa were washed twice

See: [Times as much as/more than/less than](#)

Double-/single-blind

<i>double-blind</i>	of a clinical trial in which both the doctor and subject are unaware of the treatment given or received , respectively
<i>single-blind</i>	of a clinical trial in which only the subject is unaware of the treatment received

See: [Blind/blind to/blinded/blindly](#), [Population-/subject-based control groups](#)

ALERT Check that **double-blind** is used correctly

Progressive sperm motility was subjectively evaluated by one person in a **double-blind** manner

ERROR *Semantics*: ambiguous, double-blind requires two people, but there is only one observer

CORRECT by replacing **double-blind** by **unaware of**

Progressive sperm motility was subjectively evaluated by one person **unaware of** the sample treatments

replacing **double-blind** by **blind to**

Progressive sperm motility was subjectively evaluated by one person **blind to** the sample treatments

Double negatives/litotes

<i>double negatives</i>	literary device giving a hint of reservation , politeness producing a positive meaning by negating a negative	
	The result was not unexpected , but it was disappointing	[The result was expected]
	It is not that we are ungrateful , but we cannot attend	[We are grateful]
<i>litotes</i>	literary device providing an ironical understatement producing an emphatic meaning from the negative of its opposite	
	He's no fool	[He is clever]
	She is not a bad scientist	[She is quite a good scientist]
	The effect is by no means negligible	[The effect is quite noticeable]

See: [Hardly](#), [Irony/sarcasm/sardonicism](#)

ALERT Check that **double negatives** are **intended**

In order to **rule out** the possibility that the signal was **not due to** contaminating leukocytes, sperm suspensions were treated with a leukocyte-specific agent

ERROR *Semantics*: if the signal's **not being due to** leukocytes is **ruled out**, the signal **is due to** leukocytes

CORRECT [if you intend to rule out the possibility that the signal **was due to** leukocytes] by **omitting not**

In order to **rule out** the possibility that the signal was **due to** contaminating leukocytes, sperm suspensions were treated with a leukocyte-specific agent

I **shouldn't** be surprised if it **weren't** published

ERROR *Semantics*: if you are **not** surprised that it will **not** be published you think it **unworthy** of publication

CORRECT [if you think it **worthy** of publication] by **changing the second verb to the positive**

I **shouldn't** be surprised if it **were** published

changing the first verb to the positive

I **should** be surprised if it **weren't** published

ALERT Check that **double negative** clauses are not joined by **because**

I **did not** like her because she **didn't** study the epididymis

ERROR *Semantics*: ambiguous, **it is unclear** what **because** refers to so **this could be interpreted as**

I did not like her	(because I only like epididymal researchers)	[did not refers to the main clause]
or		
I did like her	(for a reason other than her not studying the epididymis)	[did not refers to the subordinate clause]

CORRECT [if the **former** is meant] by **inserting a comma and being specific**

I **did not** like her, because I **only like people who study** the epididymis

CORRECT [if the **latter** is meant] by **rewriting the sentence by being specific**

I **liked** her, but **not because** she did not study the epididymis

rewriting the sentence by being more concise

I **liked** her, **because** she was fun to work with

He **did not** take the new position because he **didn't** want to study the epididymis

ERROR *Semantics*: ambiguous, **it is unclear** what **because** refers to

so **this could be interpreted as**

he **did not** take the new position (on epididymal research) [**did not** refers to the *main clause verb to take*]

or

he **did** take the new position (*not* on epididymal research) [**did not** refers to the *subordinate clause verb not to want to*]

CORRECT [if the **former** is meant] by

inserting a **comma** and **being specific**

He **did not take** the new position, **because** he **did not want to study** the epididymis

He **did not take** the new position, **because** he **would have to** study the epididymis

CORRECT [if the **latter** is meant] by

rewriting **the sentence** by **being specific**

He **took** the new position, but **not because** he would not have to study the epididymis

rewriting **the sentence** by **being more concise**

He **took** the new position, **because** it allowed him to study something else

He **took** the new position, **because** he wanted a change

Doubt

mass noun

a feeling of uncertainty or lack of conviction

Some **doubt** has been cast upon the authenticity of these data

verb with object

to disbelieve or lack faith in

I have no reason to **doubt** him

to feel uncertain about

I **doubt** my ability to cannulate these small ducts

to question the truth

Can you **doubt** the value and necessity of this research?

See: [Beyond/in/no/without doubt](#)

Doubt/question

See: [No doubt/question/question but](#)

Doubt if/that/whether

if

for negative statements

I **doubt if** it **will** rain

[I think that it **will not** rain]

that

for negative statements

I **doubt that** it **will** rain

[I think that it **will not** rain]

for positive statements

There is **no doubt that** I added the bicarbonate

[I **did add** bicarbonate]

for questions

Do you have any **doubt that** you added the bicarbonate?

[I **am not certain that** you added bicarbonate]

whether

for negative statements

I **doubt whether** it **will** rain

[I think that it **will not** rain]

See: [If/if... or/whether/whether... or/whether or not](#)

Doubtful/unknown

doubtful

not known with certainty, improbable

His conclusions are **doubtful** and certainly should not be assumed

unknown

not known or unfamiliar

Her research is taking her into **unknown** research areas

ALERT Check that **doubtful** is the correct word

The association between gene mutations and male infertility remains **doubtful**

ERROR *Semantics*: this implies that there is an association

CHANGE [if such an association has **not** been proven] by

replacing **the** by **any** and **doubtful** by **unknown**

Any association between gene mutations and male infertility remains **unknown**

Down-/up-regulation

down-regulation

a decrease in protein or gene expression as a response to an **externally applied influence**

does not mean reduced

up-regulation

an increase in protein or gene expression as a response to an **externally applied influence**

does not mean increased

ALERT Check that **up-/down-regulation** refers to **changes** to external influences

Comparison of the newborn and adult organs indicated that the expression of 13 proteins was **up-regulated** and

that of 21 proteins was **down-regulated** in the newborn group

ERROR *Semantics*: differences in age **are not** responses to **externally applied influences**

CORRECT by using **comparative** forms of adjectives

Comparison of the newborn and adult organs indicated a **higher** expression of 13 proteins, and **lower** expression of 21, in the newborn group

Downward/downwards

downward

adjective moving, pointing or leading to a lower place, point or level

There is a **downward** trend in grant-awarding success

downwards

adverb towards a lower place, point or level

The floor sloped **downwards**

Dr/Dr./Drs/Dr.s

Dr abbreviation of doctor

Drs abbreviation of doctors

See: [Abbreviation/acronym/contraction/initialism](#)

Drier/dryer

drier

more dry: **superior comparative** form of the adjective to dry

The gels are **drier** after use of new equipment

dryer

equipment used for drying

We shall use the new **dryer** for our gels

Driving

non-finite forms of the verb to drive
a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Gerunds/participles](#), [Position of modifiers](#)

ALERT Check that **driving** has a relevant noun to qualify

Driving to the university, the college clock-tower came into view
ERROR *Semantics:* **driving** is a participle (verbal adjective) and the college **clock-tower** is the closest noun it can complement
so this implies that the **clock-tower** was driving to the university
CORRECT [if the **observer** was driving] by
inserting *as we were*
As we were driving to the university, the college clock tower came into view
inserting *we saw* and *replacing came* by *come*
Driving to the university, **we saw** the college clock-tower **come** into view

Droplets

See: [Aerosols/droplets](#)

Dual

consisting of two similar aspects, elements or parts
dual Nationality concurrent citizenship of two countries
dual-purpose hyphenated adjective, serving two purposes or functions

Due/owe/owing

due	adjective	expected at or planned for a certain time	The bill is now due
		payable	Thanks are due to the technicians
	adverb	directly, exactly	Travel due North
	noun	that which is owed	Give the man his due
owe	verb	to have an obligation to pay or repay something	We owe the technicians our thanks
owing	adjective	of money yet to be paid	A small sum is still owing

Due/owing to

due to **adjective** followed by a **preposition**
payable to, owed to
followed by a **noun/pronoun** Thanks are **due to the technicians**
expected to, planned for, scheduled to, supposed to
followed by a **base infinitive** He is **due to give** his talk at 11 a.m.
adjectival phrase
as a result of, attributable to, caused by, resulting from,
defines **nouns/pronouns** His **infertility** was **due to** azoospermia
The **cancellation** of the appointment was **due to** staff illness
The mutant mice die from large blood vessel **rupture due to** mineralisation
does not define a **verb**
owing to **prepositional phrase**
as a result of, because of, on account of
defines **verbs** He **was** infertile **owing to** azoospermia
His appointment **was cancelled owing to** staff illness
The mutant mice **die** from large blood vessel rupture **owing to** mineralisation
does not define **nouns/pronouns/noun phrases**

See: [Because of/caused by](#)

ALERT Check that **due to** follows a relevant **noun**, pronoun or noun clause

Infertility is ubiquitous in this **group due to** a combination of factors
ERROR *Semantics:* **due to** is an adjective and **group** is the nearest noun it can complement
so this implies that the **group** was caused by a combination of factors
CORRECT [if **being ubiquitous** was caused by many factors] by
replacing *due to* by *owing to*
Infertility is ubiquitous in this group **owing to** a combination of factors

Due to its virulent nature, **Ebola culturing** must be conducted in high-security laboratories
ERROR *Semantics:* **due to** is an adjective and **culturing** is the nearest noun it can complement
so this implies that the **culturing** was virulent
CORRECT [if **Ebola** is virulent] by
rewriting the sentence by replacing *due to* by *owing to*
Owing to Ebola's virulent nature, **its** culturing must be conducted in high-security laboratories

ALERT Check the meaning if **due to** follows a **passive verb**

The seminar **was cancelled due to** bad weather
ERROR *Semantics:* **due to** is an adjective and **seminar** is the nearest noun it can complement
so this implies that the **seminar** was caused by bad weather
CORRECT [if the **cancellation** of the seminar was caused by bad weather] by
replacing *due to* by *owing to*

The seminar was cancelled **owing to** bad weather
 rewriting **the sentence** by providing a **noun** for **due to** to define
 The **cancellation** of the seminar was **due to** bad weather

She was sacked **due to** incompetence
 ERROR *Semantics:* **due to** is an adjective and **she** is the nearest noun it can complement
so this implies that **she** was caused by incompetence
 CORRECT [if **her incompetence** caused her to be sacked] by
 replacing **due to** by **owing to**
 She was sacked **owing to** incompetence
 rewriting **the sentence** by providing a **noun** for **due to** to define
 Her **sacking** was **due to** incompetence

The equipment was damaged **due to** careless handling
 ERROR *Semantics:* **due to** is an adjective and **the equipment** is the nearest noun it can complement
so this implies that **the equipment** was caused by careless handling
 CORRECT [if the **damage** was caused careless handling] by
 replacing **due to** by **owing to**
 The equipment was damaged **owing to** careless handling
 rewriting **the sentence** by providing a **noun** for **due to** to define
 The **damage** to the equipment was **due to** careless handling

ALERT Check the **meaning** when using **due to**

The cause of the fault was **due to** over-heating
 ERROR *Tautology:* as a **cause** is what something is due to, and **due to** means caused by, one term is **superfluous**
 CORRECT by using **one or the other**, not both, by
 omitting **due to**
 The **cause** of the fault was over-heating
 omitting **the cause of**
 The fault was **due to** over-heating

Due to the fact that

Style: verbosity, can be shortened: replace by **a result of, caused by**

Dummy words

empty words with **no semantic** content
 used to maintain grammatical structure

it	in statements about	weather time distance	It's raining It's half past five It was two miles to the institute
there	in statements indicating	facts	There comes a point when you stop proof reading and submit the paper There are about 7.5 million people on Hong Kong
	is a place holder not the subject that controls the verb		
	with singular subjects		There is one enzyme involved
	with plural subjects		There are two enzymes involved
that	in cleft sentences		That was the future Dean you were joking with

See: [Cleft sentences](#), [There is/are](#)

ALERT Check that a **dummy** subject is necessary

There is a microscope on the bench
 STYLE *Verbosity:* can be shortened
 CHANGE by omitting **there** and moving **is**
 A microscope **is** on the bench

There are a microscope and computer on the bench
 STYLE *Verbosity:* can be shortened
 CHANGE by omitting **there** and moving **are**
 A microscope and computer **are** on the bench

Duplicate/replicate/triplicate

duplicate	adjective	two	Duplicate measurements were taken
	noun	one of two replicates	The mean value of both duplicates was calculated
replicate	verb	to repeat once , to double	Each measurement was duplicated
	adjective	several	Replicate measurements were taken
	noun	one of several replicates	The mean value of all replicates was calculated
	verb	to repeat several times	Each measurement was replicated
triplicate	adjective	three	Triplicate measurements were taken
	noun	one of three replicates	The mean value of all triplicates was calculated
	verb	to repeat twice , to triple	Each measurement was triplicated

NOTE the **mean** value of replicates is taken as the **one** value representative of that sample
 the **SD** of the replicates reflects the **variability** of the **assessment**, **not** the sample
 the **mean \pm SD** of one replicate **cannot** be used for statistical comparisons of samples

NOTE for duplicate counts (**N1, N2**) the **difference** (**N1 – N2**) = 0 the **standard error (SE)** = $\sqrt{(N1 + N2)}$
 $[(N1-N2) / \sqrt{(N1 + N2)}] < 1.96$ by chance alone for a **95% CI**; if > 1.96 repeat duplicate measurements

See: [Accuracy/dispersion/precision](#), [Double/twice](#), [Gaussian/non-Gaussian distributions](#), [In duplicate/duplicates](#), [In replicate/replicates](#), [In triplicate/triplicates](#), [Thrice/treble/triple](#)

Duration/time

duration	the period of time over which an action continues	The duration of incubation was 30 min Cells were examined after different durations of treatment
time	a moment as defined by a clock or calendar	The incubation started at 14.00 and ended at 14.30 Cells were examined at different times from the beginning of treatment

During

See: [After/during](#), [Between/during](#), [During/for/while](#)

During/for/while

during	throughout the course or duration of an event a stated or unstated period of time	The zinc assay was performed during the incubation of the glucosidase assay During the two-month treatment period the rabbits were fed a high-cholesterol diet
for	refers to the duration of an event a stated period of time	The glucosidase samples were incubated for 120 min The rabbits were fed a high-cholesterol diet for two months
while	during the time that, temporal relationships a stated or unstated period of time	The zinc assay was performed while the glucosidase assay substrates were incubating

See: [Whereas/while](#)

ALERT Check that **duration** refers to some action

Treated animals were given DABT, and controls vehicle alone, **during** 43 days

ERROR **Syntax:** **during** needs an **event** but only a **period of time** is given

CORRECT by **replacing during by for**

Treated animals were given DABT, and controls vehicle alone, **for** 43 days

The samples were incubated **during** 15 min

ERROR **Syntax:** **during** needs an **event** but only a **period of time** is given

CORRECT by

replacing during by for

The samples were incubated **for** 15 min

inserting a definite article and an event

The samples were incubated **during the 15 min in which the next samples were centrifuged**

During the course of

Style: verbosity, can be shortened: replace by **during/while**

During the time that

Style: verbosity, can be shortened: replace by **while**

Dynamic/dynamics

dynamic	adjective	characterised by constant change	He has a dynamic research group
	noun	a force that stimulates change within a system	Critical evaluation is the basic dynamic of the group
dynamics	noun	the branch of mechanics on the motion of bodies under the action of forces	Its longer narrower flagellum improves its dynamics

Dynamics is/are

is **dynamics** is a **plural** noun treated as **singular**

Dynamics is the study of the forces or properties that stimulate change

The **dynamics** of planetary motion **was** explored by Newton

Dynamics of... is/are

is **dynamics** is a **plural** noun treated as **singular**

dynamics itself is the head noun

The **dynamics** of germ cell relationships **is** poorly understood

Dys-

See: [Prefix list](#)

Each

adverb	to, for or by every one of a group	The tickets cost £11 each
determiner	used to refer to every one of two or more items, regarded separately	Each battery is in a separate compartment
pronoun	every one of two or more items regarded separately	They each have their own personality

Each (and subsequent number of nouns)

the singular	for subsequent nouns/pronouns	when each follows the verb	They are each subject to a registration fee of €5
the plural	for subsequent nouns/pronouns	when each precedes the verb	They each are subject to registration fees of €5

Each (and subsequent gender)

when the sex of the person is **male**

use **his, him, himself**

Each student was busy with **his** work
 Each student had a paper handed to **him**
 Each student congratulated **himself**

when the sex of the person is **female**
 use **her, herself**

Each student was busy with **her** work
 Each student had a paper handed to **her**
 Each student congratulated **herself**

when the sex of the person is **unknown** or **unclear**
 use **they, them, themselves**

Each student was busy with **their** work
 Each student had a paper handed to **them**
 Each student congratulated **themselves**

See: [Indefinite third person pronouns](#)

Each/either/neither

<i>each</i>	for positive statements	Ligation affects each parameter
<i>either</i>	for negative statements	Ligation does not affect either parameter
<i>neither</i>	for negative statements	Ligation affects neither parameter

Each/every

<i>each</i>	every one of two or more objects/people considered separately	If I had 1 dollar for each grammatical error found, I would be rich
<i>every</i>	each one of two or more objects/people considered together	If I had 1 dollar for every grammatical error found, I would have 1 dollar

ALERT Check that **each** and **every** are not confused

Three posters are allowed to be submitted for **every** participating university

ERROR *Semantics*: this implies there will be **only three** posters in all

CORRECT [if participating universities are allowed to submit **three** posters] by
 replacing **every** by **each**

Three posters are allowed for **each** participating university

Each is/are

is **each refers to one** of a group Of the new microscopes, **each is** in working order

Each... is/are

<i>is</i>	when each precedes a singular subject	Each microscope is in working order	[Of the microscopes, each one is in working order]
<i>are</i>	when each follows a plural subject	We each were studying for the exams	[We (each of us individually) were studying for the exams]

Each and every

Tautology: as both **each** and **every** refer to more than one subject, one word is **superfluous**: use **one or the other**, not both

Each of

See: [Both/each/either of](#)

Each of... is/are

is **each of refers to one** of a group **Each of us is** studying hard for the exams

Each one

every one, refers to a number Of the older attendees **each one** was well-dressed

Each one is/are

is **each refers to one** of a group **Each one is** studying hard for the exams

Each one of... is/are

is **each one of refers to one** of a group **Each one of us is** studying hard for the exams

Each other/one another

<i>each other</i>	of two persons or things	The department heads liked each other and appreciated each other's efforts at fund-raising
<i>one another</i>	of three or more persons or things	The epididymal researchers liked one another and compared one another's impact factor

Eager

See: [Anxious/eager](#)

Earlier

comparative form of the adjective early, before some specified time

ALERT Check that **earlier** refers to a time point

Earlier reports **indicated** that 25% of infertile men **had** genital tract infections

ERROR *Tautology*: as all reports referred to **must be earlier** than the time of writing, **earlier** is **superfluous**

CORRECT [if **no** later reports are mentioned] by

omitting **earlier** and using the **present tense** to indicate accepted knowledge

Reports **indicate** that 25% of infertile men **have** sperm dysfunction

CORRECT [if later reports indicated **other** values] by

replacing **earlier** by a **reference point**

Reports **before 1985 indicated** that 25% of infertile men **had** genital tract infections

Early/soon/sooner

<i>early</i>	adjective	happening at the normal or expected time happening near the beginning of a particular period	Before the seminar we ate an early lunch He began his research in the early seventies
	adverb	before the normal or expected time	He wanted to leave early in order to get his flight
<i>soon</i>	adverb	in or after a short period of time	The seminar will begin soon
		indicating a preference	I'd just as soon stay in the lab.
<i>sooner</i>	adverb	by preference, preferably, rather	I'd sooner stay in the lab.

See: [Immediately/promptly/quickly/soon](#)

ALERT Check whether **early** or **soon** is the required word

Basal cell projections start to appear **early** after birth

ERROR *Syntax*: as an adverb **early** means *before*, but here is followed by the preposition *after*

CORRECT [if the **appearance** was after birth] by

replacing *early* by *soon*

Basal cell projections start to appear **soon** after birth

omitting *after birth*

Basal cell projections start to appear **early** [implies early *after birth*]

Easily/easy

<i>easily</i>	adverb	without difficulty or effort more quickly or frequently than is usual without doubt, by far very probably	He passed the exams easily They get bored easily She was easily the best speaker I've heard this year He could easily be winner of the poster prize
<i>easy</i>	adjective	achieved without great effort, presenting few difficulties	This is an easy way of retrieving information
	adverb (informal)	make little effort, take a rest	Take it easy

Eastern/northern/Southern/western blots

<i>eastern blots</i>	with no initial capital letter	(named by analogy with southern as a compass point) for determining post-translational protein modifications	Phosphotyrosine residues were ascertained by eastern blotting
<i>northern blots</i>	with no initial capital letter	(named by analogy with southern as a compass point) for determining specific RNA species	We probed gel-separated RNA with cRNA in northern blots
<i>Southern blots</i>	with an initial capital letter	a proper noun (the family name of the inventor Edwin Southern) for determining specific DNA sequences	We probed gel-separated DNA with cDNA in Southern blots
<i>western blots</i>	with no initial capital letter	(named by analogy with southern as a compass point) for determining specific proteins	We probed gel-separated proteins with antibodies in western blots

Eccrine

See: [Apocrine/holocrine/merocrine](#)

Economic/economical

<i>economic</i>	relating to economics or the economy justified in terms of profitability	The university's economic policy did not allow us to expand Our department had to become larger to remain economic
<i>economical</i>	giving good value in relation to the money, time, or effort expended	His was an economical car

Effect/impact

<i>effect</i>	outcome, result	We predicted the effect of adding quinine to spermatozoa
<i>impact</i>	a marked effect or influence	Adding quinine to spermatozoa had an impact of the fertility of the endangered species

See: [Affect/effect](#), [Impact/impinge/infringe](#)

ALERT Check whether **effect** is needed at all

Here we wished to investigate the **effect of** semen quality **on** the sperm sex chromosome ratio

ERROR *Semantics*: this implies that semen quality (a post-testicular expression) can exert an influence on germ cell chromosomes (a testicular event)

CORRECT [if a **relationship** between the two events is meant] by

replacing *effect of* by *relationship between* and *on* by *and*

Here we wished to investigate the **relationship between** semen quality **and** the sperm sex chromosome ratio

Effected

past participle of the verb **to effect**

NOTE *Overused word*: often used unnecessarily, replace by **what was effected** [or omit]

ALERT Check whether **effected** should be replaced by a **more informative word**

Measurement of sperm motility was next **effected**

STYLE *Verbosity*: can be shortened

CHANGE by **omitting *effected*** and

replacing the *noun* by its related *verb*

Sperm motility was next **measured**

Effective/effectiveness/efficacious/efficacy/efficiency/efficient

<i>effective</i>	adjective	having the power to produce a desired effect, efficacious	Quinine is effective in blocking hypotonic cell swelling
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<i>effectiveness</i>	noun	being effective under field conditions	The drug's effectiveness was lower than predicted
<i>efficacious</i>	adjective	successful under optimal conditions	The treatment is mostly efficacious
<i>efficacy</i>	noun	being effective under optimal conditions	Regular analyses are required to monitor treatment efficacy
<i>efficiency</i>	noun	the power to produce a desired results	His job is to monitor efficiency in the Andrology lab.
<i>efficient</i>	adjective	achieving maximum productivity with minimum effort	She was an efficient technician

Efflorescent

See: [Deliquescent/efflorescent](#)

e.g./i.e. (Latin)

<i>e.g.</i>	abbreviation of exempli gratia	for example	
	provides an example (some, but not all) of a complete listing		This research involved several species, e.g. monkeys, mice and hamsters [other species were used but not mentioned]
<i>i.e.</i>	abbreviation of id est	namely, that is	
	provides clarification, a complete listing		This research involved several species i.e. monkeys, mice, hamsters and rats [no other species were used]
		[less specific and precise than sc., viz.]	

See: [For example/such as](#), [Like/such as](#), [sc./viz.](#)

ALERT Check that **e.g. is not** used with words **introducing examples**

This research involved several species **such as**, **e.g.** monkeys, mice, hamsters and rats

ERROR *Tautology*: as both **such as** and **e.g.** imply that **examples will follow**, one phrase is **superfluous**

CORRECT by using **one or the other**, not both, by

omitting such as

The research involved several species, **e.g.** monkeys, mice, hamsters and rats

omitting e.g.

The research involved several species, **such as** monkeys, mice, hamsters and rats

Egg

noun	an object laid by female birds, reptiles, amphibians, fish, invertebrates usually containing an embryo (fertilised eggs) unfertilised eggs used for food layman term for the female gamete
as noun adjunct	egg maturation [the maturation of eggs] sperm-egg binding [the binding of spermatozoa to eggs]

See: [Gamete](#), [Gametogenesis](#)

Eggcorns

See: [Oronyms](#)

Either

adverb (with a **negative**)

not one or the other of two, **neither**
indicates a link with a previous statement
for that matter, moreover

I don't want **either** of those detergents
You **don't** like him, do you? I don't **either**
I was too tired to go, and I **couldn't** have paid, **either**

[I want **neither** of them]

conjunction (used before the **first** of alternatives, with **or**)

one or the other of two terms

You can use **either** detergent A **or** detergent B
Either I accompany you to your room **or** I wait here

determiner

both, each of **two singular** items

The laboratory has a door at **either end**
There were plants on **either side** of the main building

[... a door at **each end**, ...at **both ends**]
[... on **both sides** of...]

one or the other of **two singular** items
no matter which of **two singular** items

There were no publications from **either grant period**
Either medium can be used
Either detergent can be used for demembration

pronoun (indefinite)

one or the other of **two singular** items

From the **grant periods** there were no publications from **either**
I have **DMEM** and **Ham's F-12**; you can use **either**

See: [As well/either](#), [Both/each/either](#), [Each/either/neither](#)

ALERT Check the **meaning** when **either** is used

The monitors are **either** side of the microscope

ERROR *Semantics*: ambiguous

so **this could be interpreted as**

two monitors are together **on one side** of the microscope
or

one monitor is **on one side**, the other is **on the other**

CORRECT [if the **former** is meant] by **rewriting the sentence** by
using **both** and the **plural**

Both monitors **are** on **one** side of the microscope

CORRECT [if the **latter** is meant] by **rewriting the sentence** by
using **each** and the **singular**

One monitor **is** on **each** side of the microscope
 using **two** and the **plural**
 The **two** monitors **are** on **both** sides of the microscope

Either is/are
 is **either** means **one** or **the other** (of two things) Of the proposals, **either is** feasible

Either... is/are
 is **either...** means **one** or **the other...** (of two things) **Either** proposal **is** feasible

Either/either of
 used to indicate one or other of two things **Either** proposal is correct
 Either of the proposals is correct

Style: **of** is **unnecessary**, **either** alone is **sufficient**

Either of... is/are
 is **either of** refers to **one** or the other of (two things) **Either of** the hypotheses **is** feasible

Either... or
 one or the other... alternatively
 a discontinuous/correlative conjunction
 links **two** grammatical equivalents
 a **preposition after either** is **repeated** after **or** They went **either to** the right **or to** the left [**either** phrase **or** phrase]
 a **preposition before either...** **or** is **not** repeated They went **to either** right **or** left [**either** noun **or** noun]
 subjects of **different number**
 take the **singular**
 if **both** subjects are **singular** **Either** the **professor** **or** the **student was** to blame
 if the pronoun **closer to the verb** is singular **Either** they **or I am** to blame [**either they are** to blame **or I am**]
 take the **plural**
 if **both** subjects are **plural** **Either** the **professors** **or** the **students were** to blame
 if **one** is **plural** and placed nearer the verb **Either** the **professor** **or** the **students were** to blame
 Either the **student** **or** the **professors were** to blame
 if the pronoun **closer to the verb** is plural **Either** he **or they are** at fault [**either he is** at fault **or they are**]

See: [Either... or/neither... nor](#)

ALERT Check that **either... or** links **only two** grammatical equivalents

This stimulation could be due to **either** lowered O₂, raised CO₂ **or** lowered pH

ERROR Syntax: **either... or** joins **only two** items

CORRECT by **omitting either**

This stimulation could be due to lowered O₂, raised CO₂ **or** lowered pH

ALERT Check that **either... or** links grammatical equivalents

He should **either** admit he was right **or** wrong
 ERROR Syntax: **either** here **does not** link grammatical equivalents [**either** clause **or** adjective]

CORRECT by

inserting **confirm he was** after **or**

He should **either** admit he was right **or confirm he was** wrong [**either** clause **or** clause]

He should **either** open the window **or** the door
 ERROR Syntax: **either** here **does not** link grammatical equivalents [**either** clause **or** noun]

CORRECT by

inserting a **verb** after **or**

He should **either** open the window **or open** the door [**either** clause **or** clause]

moving the **verb** before **either**

He should **open either** the window **or** the door [**either** noun **or** noun]

Either... or/neither... nor

either... or **either** means **one or the other**
 or means **alternatively**

for **positive** contexts The transport of **either** carnitine **or** inositol should change

neither... nor **neither** means **not one or the other**
 nor means **and not**

for **negative** contexts The transport of **neither** carnitine **nor** inositol was changed

See: [Both/each/either of](#), [Both/either/neither of](#)

Elder/older

elder superior comparative adjective

first-born, longer-surviving of

two related

persons

She is **my elder** sister

older superior comparative adjective

first-born or longer-surviving of
 the senior of

more than two related
two or more unrelated

persons
 persons

She is **an older** sister
 He was **older** than the rest of the students

things This Zeiss microscope is **older** than the Nikon

Eldest/oldest

eldest	superior superlative adjective				
	first-born or longest-surviving of	two or more related	persons	He is my eldest son	
oldest	superior superlative adjective				
	first-born or longest-surviving of the senior of	more than two related two or more unrelated	persons persons things	He is my oldest brother He was the oldest of all the committee members This is the oldest microscope we have	

Electric/electrical/electronic

electric	literal	pertaining to, run by electricity; electrical		An electric incubator was used for incubation
	figurative	as if run by electricity, high-powered		He was describing the electric poster party
electrical	literal	pertaining to, run by electricity; electric concerning electricity		The lab. was full of electrical appliances He was an electrical engineer
electronic	literal	of a device with components controlling electric currents		We used an electronic calculator for statistical analysis

See: [Figuratively/literally](#)

Elevated

higher, more, raised

Elicit/illicit

elicit	verb	to draw out or evoke	It was hoped that showing photographs would elicit more of a response than talking
illicit	adjective	unlawful, forbidden	He was warned about uploading to the web illicit recordings of the lecture

Elide/elided/ellipsis/elision

elide	verb	to omit words that can be understood by the reader	He rewrote it in Plain English by eliding jargon and vogue words
elided	adjective	omitted	The elided words are shown in square brackets
ellipsis	noun	the omission of superfluous words from speech or text	The Abstract has been considerably shortened by ellipsis Ellipsis in the revision is indicated by struck-through text
elision	noun	the omission of a sound or syllable from speech	There is elision of a, i and u in I'm, It's and Let's, respectively

See: [Abbreviation/acronym/contraction/initialism](#), [Apostrophes](#), [Elision/omission](#)

Elision/omission

elision	count noun	an omission of a passage in a book, speech, or film	The movie's elisions have been carefully thought out
	mass noun	the omission of a sound or syllable when speaking	Reduce your talk length by shortening words by elision
omission	count noun	something or someone left out or excluded	There are large and important omissions in this report
	mass noun	the action of excluding or leaving out someone or something	He has not presented the truth, both directly and by omission

See: [Elide/elided/ellipsis/elision](#), [Ellipsis](#), [Syncope](#)

Elucidate

See: [Clarify/elucidate/explain](#)

Elude

See: [Allude/elude](#)

Embarrass/embarrass

embarrass to cause someone to feel awkward, self-conscious or ashamed

Embark

to begin, to commence, to initiate, to launch, to start

Emend

See: [Amend/emend](#)

Eminence-based treatment

See: [Assertion-/eminence-/evidence-/opinion-based treatment](#)

Empirical/molecular formulae**empirical formula**

indicates the **mole ratio** of elements present in **compounds** and **ionic species**

for **sodium chloride** is **NaCl**

contains (ions) 1 **sodium** 1 **chloride**
contains (atoms) 2 **hydrogen** 1 **oxygen**

is the **simplest whole number ratio** of atoms present in a compound

for **glucose** is **CH₂O**

contains (atoms) 1 **carbon** 2 **hydrogen** 1 **oxygen**

molecular formula

indicates the **type** and **number** of atoms in a **molecule**

for **water** is **H₂O**

contains (atoms) 2 **hydrogen** 1 **oxygen**

glucose is **C₆H₁₂O₆**

contains (atoms) 6 **carbon** 12 **hydrogen** 6 **oxygen**

anhydrous magnesium sulphate is **MgSO₄**

contains (atoms) 1 **magnesium** 1 **sulphur** 4 **oxygen**

magnesium sulphate hexahydrate is **MgSO₄·6H₂O**

contains (atoms) 1 **magnesium** 1 **sulphur** 10 **oxygen** 12 **hydrogen**

NOTE when the subscripts of a molecular formula can be divided by a whole number (usually 2 or 3), the formula mass will differ

from the molecular

See: [Formula/molecular mass](#)

Empirical/theoretical

<i>empirical</i>	based on, concerned with, verifiable by observation or experience	not theory or logic
<i>theoretical</i>	based on or calculated through theory or logic	not observation or experience

See: [A priori/posteriori](#), [Deductive/inductive reasoning](#)

Employ

to give work to someone and pay them for it	The department now employs 50 people
to make use of	They employed several methods to obtain the data

[**only people** can **employ** things]

ALERT Check that **employ** has an animate subject

The data were employed **to perform** statistical tests

ERROR *Syntax*: **data** are **insentient** and **cannot** perform any tests

CORRECT by

inverting the sentence and **replacing employed** by **performed**

Statistical tests were performed on the data

rewriting the sentence

The data were analysed statistically

Emulsion/solution/suspension

<i>emulsion</i>	cloudy fluid	with insoluble liquids dispersed in it	Coconut milk semen extender is an emulsion of oils in water
<i>solution</i>	clear fluid	with soluble solids, gases or liquids dissolved in it	Saline is a solution of NaCl in water
<i>suspension</i>	cloudy fluid	with insoluble particles suspended in it	Percoll is a suspension of PVP-coated colloidal particles in medium
		solids cells	Semen is a suspension of spermatozoa in seminal fluid

See: [Dissolve/melt](#)

En face (French)

facing forwards The aged professor sat **en face** to the right of the podium awaiting his award

En masse (French)

in a group, all together Following the new regulations the entire student body resigned **en masse**

Enable/support

<i>enable</i>	verb	to give the authority or means to do something does not mean to make possible	His expertise enabled the students to learn the technique
<i>support</i>	verb	to suggest the truth of, to corroborate to give financial assistance to	Our results on mice support the observations of Jones et al. on the rat Schering supported our research
	noun	material assistance	We received financial support from Schering

ALERT Check that **support** is the intended word

This will **support** him to complete the purchase

ERROR *Semantics*: the **objective** case implies that **he** is supported

CORRECT [if his **ability** to purchase is supported] by

replacing support by **enable**

This will **enable** him to complete the purchase

replacing support by **provide** and **to complete** by **support for**

This will **provide** him **support for** the purchase

ALERT Check that **enable** is the intended word

Her presentation skills **enabled** her poster prize victory

ERROR *Syntax*: a **victory** is **insentient** and **cannot** be enabled to do anything

CORRECT [if **she** was enabled to win the poster prize] by

replacing poster prize victory by **to win the poster prize**

Her presentation skills **enabled** her **to win** the poster prize

Encode

See: [Code/encode/encode for](#)

Encoding/encoding for

<i>encoding</i>	converting into a coded form
<i>encoding for</i>	as encoding means coding for something, it needs no additional preposition (for) after it

See: [Code/encode/encode for](#)

Encounter

to come across, to meet

Encountered frequently

Style: verbosity, can be shortened: replace by **often**

Endeavour

to attempt, to try

Endemic/epidemic/epizootic/pandemic

<i>endemic</i>	adjective	of a disease regularly found in a certain area	Influenza is endemic in the south Influenza persists in endemic pastures This marsupial is endemic to N-E Australia Numbers of scrubland endemics have fallen Cheating has reached epidemic proportions There is currently a flu epidemic here The mice are free of epizootic diseases They do research on pandemic influenza The Covid-19 pandemic started in China
		of a plant or animal native or restricted to a certain place	
	noun	an endemic plant or animal	
<i>epidemic</i>	adjective	of the nature of an epidemic	
	noun	an infectious disease with widespread occurrence in a community	
<i>epizootic</i>	adjective	of a disease temporarily prevalent in an animal population	
<i>pandemic</i>	adjective	of a disease prevalent over a whole country or the world	
	noun	the outbreak of a pandemic disease	

Endocrine/exocrine secretion

<i>endocrine</i>	of glandular cells that secrete their products (usually hormones) directly into the bloodstream Testicular endocrine secretions include testosterone from the Leydig cells		
<i>exocrine (lumicrine)</i>	of glandular epithelial cells that secrete their products through ducts opening into a lumen Testicular exocrine secretions from the Sertoli cells enter the epididymis via the efferent ducts Epididymal exocrine secretions come from the epithelial principal cells		

See: [Apocrine/holocrine/merocrine](#), [Endocytosis/exocytosis](#), [Neologisms](#)

Endocytosis/exocytosis

<i>endocytosis</i>	the uptake of matter by a living cell by invagination of its membrane to form a cytoplasmic vacuole
<i>exocytosis</i>	the expulsion of cytoplasmic vacuole contents through fusion of vacuolar and cell membranes

Engage/involve

<i>engage</i>	to participate or become involved in [only people can engage in activities]	He is currently engaged in epididymal research
<i>involve</i>	to include something as a necessary or integral part	His work involves a lot of overseas travel

ALERT Check that **engage** is only used with people

More than 2000 genes are **engaged** in spermatogenesis
ERROR Syntax: **genes** are **insentient and cannot** engage in anything
CORRECT by **replacing engaged** by **involved**
More than 2000 genes are **involved** in spermatogenesis

English

adjective	relating to English	English textbook [one presenting English grammar and vocabulary] English teacher [one teaching English or from England]
nominal adjective	the inhabitants of England	the English
noun	the language spoken in England	Old English (Anglo-Saxon) [from 450–1100] Middle English [from Norman invasion (1066) to the Great Vowel Shift (1400)] Early Modern English [from 1450–1700, Shakespeare/King James Bible/Pepys] Modern English [since the 18 th century]

See: Plain English, Types of adjective

Enhanced twofold

Style: verbosity, can be shortened: replace by **doubled**

See: [Fold/folds](#)

Enough/sufficient

<i>enough</i>	noun	an adequate amount	placed after the verb	He has had enough of the stressful lecturing life
	adjective	an adequate amount	placed before the noun	He had enough grant money to last three years
		excessive, more than is necessary	placed after the noun	He had grant money enough to travel to the conference as well
<i>sufficient</i>	noun	an adequate amount (formal)	placed after the noun	We can publish, as there has been study enough
	adjective	an adequate amount	placed after the verb	Regarding funds, the institute has sufficient for three years
			placed before the noun	The institute had sufficient money to buy the confocal microscope
		thorough	placed after the noun	The institute had money sufficient for the equipment
			placed before the noun	We cannot publish, for want of sufficient investigation

Enquiry/inquiry

<i>enquiry</i>	(informal) an act of asking for information	She sent an enquiry to the firm about the constituents of the medium
<i>inquiry</i>	(formal) an act of making a formal investigation	The department set up a professor-led inquiry into the high exam failure rate

Ensure

See: [Assure/ensure/insure](#)

Enteral/parenteral

<i>enteral</i>	involving or passing through the intestine
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<i>parenteral</i>	naturally or through an artificial opening administered without passing through the intestine other than the mouth and alimentary canal	Patients will be assigned to enteral nutrition with or without a probiotic Central venous catheters delivered parenteral nutrition to preterm infants
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Entire

with no part left out, complete, whole

NOTE *Overused word*: often used unnecessarily [**omit**]

See: [Absolute adjectives](#)

ALERT Check that **entire** *is not* used with words *implying totality*

The product will bring **entire** elimination of the contamination
ERROR *Pleonasm*: elimination means **complete** removal
CORRECT by **omitting entire**
 The product will bring **elimination** of the contamination

Envisage

to expect, to imagine, to think

Enzymatic/enzymic

<i>enzymatic</i>	relating to a substance produced by an enzyme	This is a complex enzymatic reaction
<i>enzymic</i>	confusion with American English	

Eon

See: [Geological time](#)

Epicene

adjective	having characteristics of both sexes or no characteristics of either sex, of indeterminate sex	His endocrine condition gave him the epicene beauty peculiar to prepubescent boys
in grammar	pronouns referring to both genders	
	2 nd person singular/plural	You (Jim/Jill, boys/girls) may go now Did it happen to you (Jim/Jill, the boys/girls)? It's your (Jim's/Jill's, the men's/women's) turn now
	indefinite 3 rd person plural	They (the boys/girls) can leave now It was given to them (the men/women) Their (the boys'/girls') changing rooms are downstairs
	singular	Anyone/anybody/everyone/everybody is welcome provided they pay their subscription No one/nobody can attend unless they pay their own fare Someone/somebody from your laboratory can attend if they pay for their own meals Each/every student, busy with their work, had work handed to them

See: [Indefinite third person pronouns](#)

Epidemic

See: [Endemic/epidemic/epizootic/pandemic](#)

Epididymal/epididymidal/epididymis

<i>epididymal</i>	adjective	nominative (subject case) for the entire organ	[Acta Nomina Veterinaria terminology] Epididymal spermatozoa were examined for motility Epididymal structure was examined macro- and micro-scopically
<i>epididymidal</i>	adjective	genitive (possessive case) for its different regions	[Acta Nomina Veterinaria terminology] Caput epididymidal spermatozoa were collected by mincing Cauda epididymidal fluid was collected by cannulation
<i>epididymis</i>	singular noun	nominative (subject case) for the entire organ	[Acta Nomina Veterinaria terminology] The epididymis is an understudied organ

ALERT Check that **epididymis** *is not* used as an **adjective**

Epididymis weights were lower after ligation of the efferent ducts
ERROR *Syntax*: epididymis is a **noun not** an **adjective**
CORRECT by
 replacing **epididymis** by **epididymal**
Epididymal weights were lower after ligation of the efferent ducts
 rewriting **the sentence**
 The weights **of the epididymides** were lower after ligation of the efferent ducts

Epididymes/epididymi

not Acta Nomina Veterinaria terminology

See: [Epididymides/epididymidum](#)

Epididymides/epididymidum

<i>epididymides</i>	plural noun	nominative (subject case) for more than one entire organ	[Acta Nomina Veterinaria terminology] Both epididymides were fixed for histology
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epididymidum plural noun **genitive** (possessive case) [Acta Nomina Veterinaria terminology]
for regions of **more than one** organ Both **capita epididymidum** were excised

See: [Caput/cauda/corpus](#), [Capita/caudae/corpora](#), [Epididymidis/epididymis](#)

Epididymidis/epididymis

epididymidis singular noun **genitive** (possessive case) [Acta Nomina Veterinaria terminology]
for the **entire** organ Spermatozoa were obtained from the **ductus epididymidis**
for its different **regions** Fluid was obtained from the **corpus epididymidis**
Spermatozoa were obtained from the **cauda epididymidis**

epididymis singular noun **nominative** (subject case) [Acta Nomina Veterinaria terminology]
for the **entire** organ Each **epididymis** was cut into caput, corpus and cauda regions

Epi-fluorescence/fluorescence

epi-fluorescence fluorescence improved to detect more excited than incident fluorescence
achieved by locating the source above (**epi**) the sample (in an upright microscope) [or below it in an inverted microscope]

fluorescence luminescence emitted at one wavelength after absorption of light of a lower wavelength

Epitome

See: [Apotheosis/epitome](#)

Epizootic

See: [Endemic/epidemic/epizootic/pandemic](#)

Epoch

See: [Geological time](#)

Equal/equals/equals sign

equal adjective being the same in quantity, size, degree, value The two sums are **equal**

equals verb demonstrating equality Two times two **equals** four

equals sign (=) symbol **does not mean** to imply, to indicate, to be, to suggest
demonstrates equality Data are given as mean \pm SEM, **N = 9**
does not mean implies, indicates, means

See: [Imply/infer](#), [Indicate/suggest](#), [Mathematical comparators/operators](#)

ALERT Check that **equal** or **equals** **is not** used in a non-mathematical sense

The presence of tumour stem cells in a neoplasm does not **equal** that they are derived from somatic stem cells

ERROR *Syntax*: a **presence is not equal to** a noun phrase

CORRECT by **replacing equal** by **imply, mean** or **indicate**

The presence of tumour stem cells in a neoplasm does not **imply/mean/indicate** that they are derived from somatic stem cells

Scale bar = 50 μ m

ERROR *Syntax*: the **bar is not equal to** a distance; it is of a certain length

CORRECT by

replacing the equals sign by a **comma, colon** or **description**

Scale bar, 50 μ m

Scale bar: 50 μ m

Scale bar **is equivalent to** 50 μ m

From the Greek *didymoi* (= twins)

ERROR *Syntax*: **didymoi is not equal to** twins; it is a translation of it

CORRECT by

omitting the equals sign

From the Greek *didymoi* (twins)

replacing the equals sign by **i.e.** or **namely**

From the Greek *didymoi* (**i.e./namely** twins)

Equal to/with

to capable of meeting the requirements The graduate student was **equal to** the task

with equivalence, identity, similarity In this task men are **equal with** women

Equally/equally as

equally in the same manner, to the same extent Compared with the thesis of Jones, Hinton's is **equally** good

equally as as **equally** means **to the same extent**, it **needs** no additional word meaning **to the same extent (as)** after it

ALERT Check that **equally** **is not** used with a word meaning the same

The follow-up discussion is **equally as** important

STYLE *Tautology*: as both **equally** and **as** mean **to the same extent**, one word is **superfluous**

CHANGE by **using one or the other**, not both, by

omitting as

The follow-up discussion is **equally** important

omitting equally

The follow-up discussion is **as** important

ALERT Check that the **correct prepositions** are used with **equalities** and comparatives

A single FNA sample is **equally** or **more** informative **than** a testicular biopsy

ERROR *Syntax:* **equally** requires the preposition **as** but **more** requires the conjunction **than**

CORRECT by

inserting **informative as** and **commas** after **as** and **than**

A single FNA sample is **equally informative as**, or **more** informative **than**, a testicular biopsy

replacing **equally or more** by **no less**

A single FNA sample is **no less** informative **than** a testicular biopsy

replacing **equally or more** by **at least as** and **than** by **as**

A single FNA sample is **at least as** informative **as** a testicular biopsy

The assessment of vascularisation in some adenomatoid tumour regions revealed either an **equal**, or a significantly **lower**, vessel density **to** that in normal epididymal tissue

ERROR *Syntax:* **equal** requires the preposition **to** but **lower** requires the conjunction **than**

CORRECT by **rewriting the sentence** by moving **vessel density** after **revealed** and

replacing **an equal** by **equal to** and inserting **than**

The assessment of vascularisation in some adenomatoid tumour regions revealed vessel density either **equal to**, or significantly **lower than**, that in normal epididymal tissue

replacing **either equal to or significantly lower** by **no greater than**

The assessment of vascularisation in some adenomatoid tumour regions revealed vessel density **no greater than** that in normal epididymal tissue

Equivocal/unequivocal

equivocal with more than one meaning/interpretation

His data on the uptake of osmolytes are **equivocal** and cannot be published

unequivocal with only one meaning/interpretation

His unequivocal demonstration of sperm swelling is accepted

See: [Ambiguous/ambivalent/equivocal](#), [Definite/definitive](#)

Era

See: [Geological time](#)

Erratum

See: [Addendum/corrigendum/erratum](#)

Erroneous

in error, incorrect, mistaken, wrong He seems to have made **erroneous** assumptions

Error/mistake

error in grammar not correct, an inaccuracy because a rule is **not known**

There's an **error** in the spelling of epididymidis

mistake in grammar not correct, an inaccuracy when a known rule is **temporarily forgotten**

There's a **mistake** in the subjunctive form

Erstwhile

former

See: [Ex-/former](#)

Escalate

See: [Accelerate/escalate/increase](#)

Escort

See: [Accompany/escort](#)

Especially/specially

especially chiefly, particularly

adverb placed **before** or **after** the word it defines

an **adjective** before Marmosets were **especially difficult** to work with

a **verb** before She **especially disliked** working with animals

after She **disliked** working with animals, **especially** marmosets

a **participle** before The respirator was **especially made** for small animals

after The respirator was **made especially** for small animals

specially for a special purpose adverb placed **before** or **after** the word it defines

a **participle** before The cytometer was **specially calibrated** for spermatozoa

after The cytometer was **calibrated specially** for spermatozoa

Essential for/that/to

for the preposition **for** is used with **objects**

Vitamins are **essential for animals** which cannot make them

that the relative pronoun **that** introduces a clause with a **subjunctive** verb

It is **essential for clinicians** to understand how to interpret results

to **to** is the infinitive marker of the following non-finite **verb**

It is **essential that** he **sterilise** the bench after use

It is **essential to keep** up-to-date with the literature

Establish

to create, to form, to setup

The British Andrology Society was **established** in 1989

to show to be true or certain by determining the facts

These studies **establish** that swollen spermatozoa **cannot** penetrate cervical mucus

See: [Claim/demonstrate/establish/show](#), [Establish that](#)

Establish that

used when there is **sufficient evidence** for a conclusion to be drawn
expressed by the following verb in the **declarative** mood

He has **established that** the epididymis **secretes** proteins lacking signal sequences

See: [Certainty/uncertainty](#)

ALERT Check that **establishes** relates to an object **capable of establishing**

The 2D gel **establishes** that the proteins are phosphorylated during capacitation

ERROR *Syntax*: a **gel** is **insentient and cannot** establish anything

CORRECT by **accepting the idea** that the bands in the 2D gel **provide evidence** that may be interpreted to establish something
The **bands** in the 2D gels **provide evidence that establishes** that the proteins are phosphorylated during capacitation
The **bands** in the 2D gels **establish** that the proteins are phosphorylated during capacitation

Estimate

See: [Assess/count/estimate](#)

Estimated at/at about

estimated at an approximate calculation of the value or extent of something The volume of each drop was **estimated at** 10 µl
estimated at about as an **estimate** is an **approximation**, it **needs no** additional **approximation (about)** after it

ALERT Check that **estimated is not** used with words **implying approximation**

The number of attendees was **estimated at about** 50

ERROR *Tautology*: as both **estimated** and **about** imply an **approximation**, one word is **superfluous**

CORRECT by **using one or the other**, not both, by
omitting about

The number of attendees was **estimated at** 50

omitting estimated at

The number of attendees was **about** 50

et al. (Latin)

abbreviation of **et alia** and other things
et alibi and other places
et alii and other male persons
et aliae and other female persons
generally and others

The human epididymal proteome has been published by Li **et al.** (2010)

et seq./et seqq. (Latin)

et seq. abbreviation of **et sequens** and the following [more used than et seqq.] see volume 35, p. 329 **et seq.**
et seqq. abbreviation of **et sequentia** of sequential things (pages and lists) [less used than et seq.] see volume 35, p. 329 **et seqq.**

etc. (Latin)

abbreviation of **et cetera** and similar things
as **et** means **and** there is **no comma** [used instead of **and**] before it He prepared the dissection instruments: scalpels, forceps **etc.**

Ethics is/are

is **ethics** is a **plural** noun treated as **singular** Medical **ethics is** an increasingly important area in reproductive medicine

Ethics of... is/are

is **ethics** is the subject and a **plural** noun treated as **singular**
ethics itself is the head noun The **ethics** of the proposals **needs** careful deliberation

Etymology

the branch of grammar dealing with the classification, inflexion and origin of words

See: [Inflection](#)

Euphemism/innuendo**euphemism**

a **mild** or **less direct** word substituted for one that is **harsh** or **blunt**
used especially when referring to something **unpleasant** or **embarrassing**
avoid in reporting science be accurate, use

died	not passed away, expire	
kill	not culling, euthanising, sacrificing	for individual animals
kill	not cull, euthanise, sacrifice	for individual animals
sex	not gender	for biological males or females

innuendo

an oblique remark, typically of a suggestive or disparaging nature Don't believe the **innuendos** about my being a member of the grammar police

See: [Cull/kill](#), [Euthanasia/euthanise/kill/killing](#), [Gender/sex](#), [Sacrifice](#)

Euthanasia/euthanise/kill/killing

euthanasia	noun	the humane killing of a patient suffering from an incurable disease	Most of our patients eventually request euthanasia
euthanise		confusion with American English	
kill	verb	to deprive a living thing of life	The injected animals were killed

killing gerund depriving a living thing of life

The **killing** involved asphyxiation in CO₂

See: [Cull/kill](#)

ALERT Check that **euthanasia** *is not* used as a **verb**

The animals were **euthanised**

ERROR *Syntax*: euthanasia is a **noun** *not* a verb

CORRECT by **using a verb**

The animals were **killed** painlessly

Evaluate/evaluation

evaluate verb to form an idea about the extent of something, to assess

We **evaluate** the effects on heavy metals on aquaporins

[**only people** can **evaluate**]

does not mean to measure

evaluation noun making a judgement about an extent of something, an assessment An **evaluation** of each method's precision will be made

See: [Assess/count/estimate](#)

ALERT Check that **evaluate** is the intended word

Is TEM still important **to evaluate** human sperm defects?

ERROR *Syntax*: **TEM** is **insentient and cannot** evaluate anything

CORRECT by **replacing to evaluate** by **for the evaluation of**

Is TEM still important **for the evaluation of** human sperm defects?

Decreased sperm motility was **evaluated** in the treated group

ERROR *Semantics*: this implies that increased or unchanged sperm motility was not evaluated

CORRECT [if all forms of sperm motility were evaluated] by

replacing evaluated by **observed**

Decreased sperm motility was **observed** in the treated group

rewriting the sentence by **inserting what was found**

Sperm motility was **evaluated** in the treated group **and a decrease was observed**

Evaporated milk

See: [Condensed/evaporated/skimmed milk](#)

Evaporation/vaporisation

evaporation the **natural** change from the liquid to vapour state, losing moisture or solvent as vapour

vaporisation the **forced** conversion of a liquid into its vapour state

See: [Condensation/evaporation/sublimation](#), [Gas/vapour](#), [Humid/humidified](#)

Even

adjective flat and smooth, in the same plane, equal in value

A Petri dish, placed on an **even** bench, allows the gel to set level

adverb emphasises something surprising or extreme

added to statements referring to

a conditional	I'll finish it even if it takes me all night
an incongruity	She wears a coat even when it is hot
a negative	He didn't even attempt three questions
a positive	Even the cleaner agrees
a time	Even as he opened the door, it started raining

verb to make or become even or level

The bench top was **evened** by planing and sanding it

NOTE as both a **verb** and **adverb** there is a danger with split infinitives

See: [Although/even though/though](#), [Despite/in spite of](#), [Position of adverbs](#), [Split infinitives](#)

ALERT Check that **infinitives are not split** by **even**

There was no plan **to even consider** postponing the exams

ERROR *Semantics*: discourteous, is the verb **to even** (meaning **to make level**) or a split infinitive (**to consider**)?

the reader **expects even** to be the **verb**, and **then realises otherwise** [**even** is used as an **adverb**]

CORRECT by **not splitting the infinitive** and **moving the adverb before the verb**

There was no plan **even to consider** postponing the exams

Even if... does not mean

the subordinating conjunction **if does not** introduce a noun clause

See: [That clauses](#)

ALERT Ensure that an **even if clause does not** introduce a noun clause

Even if the hormone did not alter epididymal weight **does not indicate** that there are not receptors present

ERROR *Syntax*: the conjunctive phrase **even if cannot** introduce a noun clause, so the verb **does not indicate** has **no subject**

CORRECT by

replacing even if by a **that**

That the hormone did not alter epididymal weight **does not indicate** that there are no receptors present
 replacing **even if** by **the fact that**
 The **fact that** the hormone did not alter epididymal weight **does not indicate** that there are no receptors present
 inserting **that** before the **verb**
 Even if the hormone did not alter epididymal weight **that does not indicate** that there are no receptors present
 rewriting **the sentence** by replacing **does not imply** by a **human element**
One should not think, even if the hormone did not alter epididymal weight, that there are no receptors present

Even though

See: [Although/even though/though](#), [Despite/in spite of](#)

Event

something that happens or takes place, especially one of importance

NOTE Overused word: often used unnecessarily, replace by **the event itself** [or omit]

ALERT Check whether **events** should be **replaced** by a **more informative word** or **omitted**

The epididymis provides sufficient H₂O₂ to permit optimal disulphide-bridging **events** within spermatozoa

STYLE Tautology: as **bridging** is an event, **event** is **superfluous**

CHANGE by **omitting events**

The epididymis provides sufficient H₂O₂ to permit optimal disulphide bridging within spermatozoa

Eventually

occurring at the end of a process or period of time, inevitable, in the end

especially after a long delay, dispute or series of problems

Eventually, after two missed flights, I arrived at the hotel at midnight

does not mean perhaps (not inevitable)

Eventuate

to happen, to occur, to result

Ever

adds emphasis to interrogatives How **ever** did you manage to get those results?

Every

determiner used before a singular noun to refer to all the individual members of a set The hotel assures **every** guest of personal attention

See: [Each/every](#)

Every (and subsequent gender)

when the sex of the person is **male**

use **his, him, himself**

Every student was busy with **his** work

Every student had a paper handed to **him**

Every student congratulated **himself**

when the sex of the person is **female**,

use **her, herself**

Every student was busy with **her** work

Every student had a paper handed to **her**

Every student congratulated **herself**

when the sex of the person is **unknown** or **unclear**

use **their, them, themselves**

Every student was busy with **their** work

Every student had a paper handed to **them**

Every student congratulated **themselves**

See: [Epicene](#), [Notional agreement](#)

Every... is/are

is **every... refers to each of several items** considered as **one unit** **Every** veterinary school **is** aware of the outbreak

See: [Every one of... is/are](#)

Every body/everybody

every body general determiner followed by a **noun**

everybody indefinite third person pronoun

refers to **each of several bodies**

refers to **several people** considered as **one unit**

Every body donated to us will be used

Everybody was invited to the party

Every day/everyday

every day adverb each day, daily

everyday adjective daily

commonplace, ordinary

He feeds the monkeys **every day**

He starts work with his **everyday** routine of feeding the monkeys

When not in the lab. he wears **everyday** clothes

Every one/everyone

every one general determiner followed by a **noun**

everyone indefinite third person pronoun

refers to **each of several people**

refers to **all of several people**

Of the seniors **every one** was well-dressed

Everyone was invited to the seminar

Every one of... is/are

is **every one of... refers to each of several things or people** Of the vet. schools, **every one of** them here **is** alert to the outbreak

Every one of them (and subsequent gender)

when the sex of the person is **male**
use **his, him, himself**

when the sex of the person is **female**
use **her, herself**

when the sex of the person is **unknown** or **unclear**
(indefinite 3rd person) use **their, them, themselves**

Every one of them was busy with **his** work
Every one of them had a paper handed to **him**
Every one of them congratulated **himself**

Every one of them was busy with **her** work
Every one of them had a paper handed to **her**
Every one of them congratulated **herself**

Every one of them was busy with **their** work
Every one of them had a paper handed to **them**
Every one of them congratulated **themselves**

See: [Epicene](#), [Indefinite third person pronouns](#), [Notional agreement](#)

Every thing/everything

every thing general determiner followed by a **noun** refers to **several** items
everything indefinite third person pronoun refers to **all of several things**

He liked **every thing** he saw
Everything was done to publish early

Everybody

See: [Every body/everybody](#)

Everybody is/are

is **everybody** *refers to all of several people* **Everybody is** taking the exams

Everybody (and subsequent gender)

indefinite third person pronoun

when the sex of the person is **male**
use **he, his**

when the sex of the person is **female**
use **she, her**

when the sex of the person is **unknown** or **unclear**
use **they, their**

Everybody is welcome to join provided that **he** pays **his** subscription

Everybody is welcome to join provided that **she** pays **her** subscription

Everybody is welcome to join provided that **they** pay **their** subscription

Everyone

indefinite third person pronoun

See: [Every one/everyone](#)

Everyone/no one

everyone for **positive** contexts **Everyone** is requested to attend punctually
no one for **negative** contexts **No one** is obliged to turn up on Saturday

See: [Every one/everyone](#)

ALERT Check that **everyone is not** used in a negative context

Everyone will not attend on Sunday

STYLE *Word usage: everyone is not* used with a **negative verb**

CHANGE by using **no one** and the **positive**

No one will attend on Sunday

Everyone is/are

is **everyone** *refers to all of several people* **Everyone is** welcome to attend the opening ceremony

Everyone (and subsequent gender)

when the sex of the person is **male**
use **he, his**

when the sex of the person is **female**
use **she, her**

when the sex of the person is **unknown** or **unclear**
use **they, their**

Everyone is welcome to join provided that **he** pays **his** subscription

Everyone is welcome to join provided that **she** pays **her** subscription

Everyone is welcome to join provided that **they** pay **their** subscription

See: [Indefinite third person pronouns](#)

Everything

indefinite third person pronoun

See: [Every thing/everything](#)

Everything/nothing

everything for **positive** contexts **Yes, everything** is for sale
nothing for **negative** contexts **No, nothing** is for sale

Everything is/are

is **everything refers to several items** considered as **one unit** **Everything is** in place

See: [Every thing/everything](#)

Evidence/evidenced

evidence evidence is a **noun, not a verb**

See: [Evidence/evidences, Judged by/from](#)

ALERT Check that **evidence is not** used as a **verb**

A link between oxidative stress, sperm DNA fragmentation and sperm DNA methylation has been **evidenced**

ERROR *Syntax:* evidence is a **noun, not a verb**

CORRECT by

replacing **evidenced** by **demonstrated**

A link between oxidative stress, sperm DNA fragmentation and sperm DNA methylation has been **demonstrated**

replacing a **participle** by an **adjective**

A link between oxidative stress, sperm DNA fragmentation and sperm DNA methylation is **evident**

The spermatozoa were capacitated **as evidenced by** their marked protein phosphorylation

ERROR *Syntax:* evidence is a **noun, not a verb**

CORRECT by

replacing **as evidenced by** with a **participial phrase**

The spermatozoa were capacitated **as judged by** their marked protein phosphorylation

The spermatozoa were capacitated **as demonstrated by** their marked protein phosphorylation

replacing **as evidenced by** with a **gerundial phrase**

The spermatozoa were capacitated, **judging from** their marked protein phosphorylation

replacing **as evidenced by** with an **auxiliary verb** and **preposition**

The spermatozoa were **judged to be capacitated from** their marked protein phosphorylation

Evidence/evidences

evidence **evidence** is a **mass noun**, which **has no plural**
the **plural** form takes a **partitive** construction

The **evidence** in the literature **supports** this view
Several **lines of evidence** **fit** well with the theory

Evidence/evinced

evidence noun facts indicating whether something is true or valid
is not a verb

Cell swelling in quinine solution is **evidence** of K⁺-channel involvement

evinced verb to reveal the presence of, to indicate, to show

The report **evinced** the usual mixture of sympathy and satisfaction'
He first **evinced** an interest in epididymal function in Nashville

See: [Suggest that](#)

ALERT Check that **evidence** is the correct word

Few human spermatozoa are capable of a chemotactic response without **evidencing** a change in movement

ERROR *Syntax:* evidence is a **noun, not a verb**

CORRECT by

replacing **evidencing** by **evinced**

Few human spermatozoa are capable of a chemotactic response without **evinced** a change in movement

using **evidence** as a **noun**

Few human spermatozoa are capable of a chemotactic response without **displaying evidence of** a change in movement

being **more specific**

Few human spermatozoa are capable of a chemotactic response without **changing** their movement

ALERT Check that **evidence is not** used with verbs of **reflecting uncertainty**

There is no **evidence** thus far to indicate that these tumours **might be** positive for PAX2

ERROR *Oxymoron:* **evidence** indicates facts **considered certain**, but **might be** indicates **uncertainty**

CORRECT by replacing **might be** by **are**

There is no **evidence** thus far to indicate that these tumours **are** positive for PAX2

Evidence-based treatment

See: [Assertion-/eminence-/evidence-/opinion-based treatment](#)

Evidence that

used when there is **sufficient evidence** for a conclusion to be drawn

with the following verb in the **declarative** mood

They provided **evidence that** cells **are** lost because of apoptosis

See: [Certainty/uncertainty, Demonstrate that, Moods of verbs](#)

ALERT Check that the verb following **evidence that** is in the **declarative** mood

We have **evidence that** the enzyme **could act** as a true ROS scavenger

ERROR *Oxymoron:* **evidence** reflects **certainty** but the conditional **could** implies a **condition**

CORRECT [if there is **sufficient** evidence] by

using the **declarative** mood

We have **evidence that** the enzyme **acts** as a true ROS scavenger

CORRECT [if there is a **condition**] by

providing the condition

We have **evidence that** the enzyme **could act** as a true ROS scavenger *if leukocytes are the source of ROS*

CORRECT [to emphasise **uncertainty**] by

omitting We have evidence that

The enzyme **could act** as a true ROS scavenger

Evolve/invoke/revoke

evoke to bring or recall a feeling, memory or image

to elicit a response, to invoke

invoke to cite an authority for action in support of an argument

to call earnestly for

to give rise to, to evoke

revoke officially to cancel a decree, decision or promise

The smell of clearing agent **evoked** memories of his stay at Harvard

The change in rules **evoked** critical reactions from the students

The Dean **invoked** Health and Safety laws to close down the laboratory

She **invoked** his help to remove contamination of the cultures

By challenging him she would **invoke** his anger

Permission for unsupervised use of the microtome has been **revoked**

Evolve

to undergo a gradual natural change or development, which may be self-generated, in response to external influences

does not mean to change, to develop

Ex-/former

ex- having formerly been, previous, former

has **negative** connotations

The **ex**-Dean was sacked for incompetence

former having formerly been, previous, erstwhile, sometime

a statement of **fact**

The **former** Dean is now Head of the Department

See: [Some time/some times/sometime/sometimes](#)

Ex/in vivo

ex vivo taking place **outside** a living organism

short-term (~24 h) experiments on extirpated functional organs

in an **artificial** environment but with minimal alteration of in vivo conditions

They adapted their original method to perfusion **ex vivo** of the epididymal lumen in an external supporting medium

in vivo taking place **within** a living organism

whole animal studies

e.g. drug administration or gene knockout studies

The epididymal tubule of the anaesthetised animal was perfused **in vivo**

NOTE unhyphenated **prepositional phrases** appear **after** the noun they define perfusion **ex vivo**

insemination **in vivo**

hyphenated **adjectival phrases** appear **before** the noun they define **ex-vivo** perfusion

in-vivo insemination

See: [In silico/situ/vitro/vivo](#)

Ex officio (Latin)

out of duty, by virtue of one's office, position or status

adjective

official

The head of the department serves as an **ex officio** member of the board

adverb

by right of office

The head of department sat on the committee **ex officio**

Exact... as/that

that when **exact** is used as an **adjective** defining a **noun**

He used the **exact words that** I had

See: [Same... as/that](#), [Very... as/that](#)

Exact same

Oxymoron: as same means identical, things are either the **same** or **not**: use **same** or **very same**

Exactly

used to emphasise the accuracy of a figure or description

in exact terms, without vagueness What **exactly** are you doing research on?

See: [Rounding of numbers](#)

ALERT Check whether **exactly** is necessary

We **added exactly** 3.5 mg NaCl to the solution when the precipitate cleared

ERROR *Tautology*: as 3.5 mg is **exact** (to the first decimal place), **exactly** is **superfluous**

CORRECT by **omitting exactly**

We **added** 3.5 mg NaCl to the solution when the precipitate cleared

Semen samples were incubated with strong acid for **exactly** 30 min

ERROR *Semantics*: 30 min is in **exact** period (to the first unit place), so exactly is **superfluous**

CORRECT by **omitting exactly**

Semen samples were incubated with strong acid for 30 min

Exactly the same

Oxymoron: as **same** means identical, things are either **the same** or **not**: use **the same**

See: [Absolute adjectives](#)

Exactly true

Oxymoron: something is either **true** or **not**: use **true**

See: [Absolute adjectives](#)

Examination of the patients was carried out

Style: verbosity, can be shortened: replace by **the patients were examined**

See: [Carry out](#)

Examine

See: [Detect/determine/examine/inspect](#)

Exceed

verb to be greater in number or size than The kinematic values of the test spermatozoa **exceeded** those of the controls
That the radiation **exceeded** the safety limit led to closure of the lab.

Exceedance/exceeding/excessive

<i>exceedance</i>	noun	an act or example of exceeding	The continual exceedance of safety limits led to re-evaluation of the rules
<i>exceeding</i>	participle	very great, very much	We listened to his seminar with exceeding interest
	gerund	being greater in number or size than	The radiation's exceeding the safety limit led to closure of the lab.
<i>excessive</i>	adverb	too great, too much, more than normal	The noise was excessive

Exceeded by a factor of x10

Style: verbosity, can be shortened: replace by **was 10 times greater**

Exceedingly/excessively

<i>exceedingly</i>	adverb	very great, very much	His lecture was exceedingly interesting
<i>excessively</i>	adverb	too great, too much, to a greater degree or amount than is normal	His lecture was excessively long

Except

preposition	with the exception of	Everyone except him had arrived [Everyone (with the exception of him) had arrived]	[Nobody (with the exception of her) knew]
	with the objective case		
conjunction	with the exception of	Everyone except he had arrived [Everyone had arrived (but he had not)]	[Nobody (with the exception of her) knew]
	with the nominative case		
verb	to be made an exception	Because of his illness, he was excepted from having to take the exams	

See: [Apart from/except for/other than](#)

Except/not excepting

<i>except</i>	with the exception that used in a negative sense followed by	a noun	They were all present, except the vet	[the vet was not present]
		an adverbial phrase	I always wear a lab. coat, except in summer	[I do not wear one in summer]
		a whole clause	I did well, except I only finished three questions	[I did not do all that well]
<i>not excepting</i>	even, including used in a positive sense followed by	a noun	They were all present not excepting the vet	[the vet was present]
		an adverbial phrase	I always wear a lab. coat, not excepting in summer	[I do wear one in summer]

See: [Double negatives/litotes](#)

Except/unless

<i>except</i>	not including, other than, with the exception that	followed by a noun	They work every day except Sunday
<i>unless</i>	except if	followed by a clause	They work every day unless it is Sunday

Except for

See: [Apart from/except for/other than](#)

Exceptionable/exceptional

<i>exceptionable</i>	open to exception or objection	The quality of his thesis was exceptionable	[the quality of the thesis was low]
<i>exceptional</i>	forming an exception, not as expected, unusual	The treated rats' behaviour was exceptional	[the behaviour was unusual]

Excessive

See: [Exceedance/exceeding/excessive](#)

Excessively

See: [Exceedingly/excessively](#)

Excitate/excite

excite The fluorescent light **excited** the fluorescent dyes attached to the antibodies in the sample

See: [Back-formation](#)

Exclamation/interjection

<i>exclamation</i>	followed by an exclamation mark	exclaiming something, an exclamatory sentence	The UV light has been left on all night!
<i>interjection</i>	followed by an exclamation mark	an abrupt remark, especially as an aside or interruption an exclamation, as part of speech	That is not true! Oh no!

See: [Punctuation](#), [Sentences](#)

Exclamatory mood

for expressing **strong emotions**

accompanied by **tonal voice changes** when spoken

ends with an exclamation mark (!)

What beautiful handwriting!

She's plagiarised her supervisor's work!

Don't tell me you've broken the microscope again!

Excluding

apart from, except, not taking something or someone into account

ALERT Check that **excluding** *is not* used with a **preposition**

He works throughout the summer, **excluding in** August

ERROR *Syntax:* as **excluding** is a **preposition**, it **needs no** additional **preposition (in)** after it

CORRECT by **omitting in**

He works throughout the summer, **excluding** August

Exhibit

to reveal, to show

See: [Find/reveal](#), [Identify/indicate/show](#)

Exhibited a significantly reduced ability to fertilise eggs

Style: verbosity, can be shortened: replace by **fertilised significantly fewer eggs**

Exigent

Style: pretentious, replace by **demanding/pressing/urgent**

Exocytosis

See: [Endocytosis/exocytosis](#)

Expect

See: [Anticipate/expect](#), [Never](#)

Expectation/promise

<i>expectation</i>	noun	a strong belief that something will happen [only people can hold expectations]
<i>promise</i>	noun	a assurance that one will make something happen
	verb	to assure someone that one will definitely do something

He has the **expectation** that quinine will increase sperm size
My supervisor gave a **promise** to allow me to submit a poster
My supervisor **promised** to allow me to submit a poster

ALERT Check that the subject is capable of **expectation**

This technique holds great **expectations** of treatment of epididymal blockage

ERROR *Syntax:* a **technique** is **insentient and cannot** hold expectations

CORRECT by **replacing expectations** by **promise**

This technique holds great **promise** of treatment of epididymal blockage

Expedite

to allow, to hasten, to speed up

Expensive

See: [Cheap/dear/expensive](#)

Experience/experiment

<i>experience</i>	knowledge or skill gained from doing an activity, practical contact with and observation of facts or events does not mean experiment confusion with French
<i>experiment</i>	a scientific procedure undertaken to test a hypothesis

Experience in/of/with

<i>in</i>	related to having been trained in something	We are looking for someone with experience in cannulating the epididymal tubule
<i>of</i>	related to knowledge in general	The degree programme provided experience of male reproductive physiology
<i>with</i>	related to knowledge gained by physical contact	She has experience with small animals

Experienced

having gained knowledge or skill in a particular field over time

NOTE *Vague word:* replace by **what was experienced**

ALERT Check whether **experienced** should be replaced by a more informative word

Unusual **shrinkage** of the testicular interstitium was **experienced**
 STYLE *Verbosity*: can be shortened
 CHANGE by **omitting experienced** and
 replacing the **noun** by its related **verb**
 The testicular interstitium **shrank** unusually

Experienced a colour change during storage

Style: verbosity, can be shortened: replace by **the colour changed during storage**

Expire

to end, to terminate, to die (of a person)

See: [Euphemism/innuendo](#)

Explain

See: [Clarify/elucidate/explain](#)

Explanation/explication

explanation a statement or account that makes something clear
explication the process of analysing and developing an idea in detail

In the Abstract provide a clear **explanation** of your aims and methods
 He is known for his clear **explications** of scientific concepts

Explore/explore

explore to enquire into or discuss a subject in detail

See: [Back-formation](#)

Exposition/exposure

exposition a comprehensive description and explanation of an idea
 a large exhibition
does not mean being exposed confusion with **French**
exposure the state of being exposed to something harmful
 the revelation of a secret that is embarrassing or damaging

This is a well written **exposition** of Jones's ideas on epididymal evolution
 Our equipment will be on show at the upcoming Trade **Exposition**

Testicular volume decreased after **exposure** to irradiation
 The **exposure** of his persistent plagiarism led to his dismissal

ALERT Check that **exposition** is the **intended word**

Testicular size decreased after **exposition** to X-rays

ERROR *Semantics*: no comprehensive description is given

CORRECT by **using English**

Testicular size decreased after **exposure** to X-rays

Expound/expound upon

expound to explain a theory or idea in detail

Expression analysis/extent

analysis the **analysis** of expression of a gene or protein
 the measurement of the expression
extent the **value** of the expression of a gene or protein
 the **result** of expression analysis

Analysis by RT-PCR was the method adopted to gauge gene expression

The **extent** of gene expression was increased by the treatment

See: [Analysis](#)

Expression/expressions

expression when emphasis is on the **expression itself**
expressions when emphasis is on several **expressions**

The **expression** of several proteins **was** altered by the treatment
Expressions of interest **have come** from many laboratories

ALERT Check whether **expression** should be **singular** or **plural**

The **expressions** of PRDX-2, -3, -4 and -5 **were** low in spermatozoa from infertile men

ERROR *Syntax*: although several proteins are expressed, the **expression** of each protein (**singular**) is the subject

CORRECT by

replacing **expressions** by **expression** and **were** by **was**

The **expression** of PRDX2,3,4 and 5 **was** low in spermatozoa from infertile men

omitting the **definite article**

Expressions of PRDX-2, -3, -4 and -5 **were** lower in spermatozoa from infertile men

Extant/extent

extant adjective still surviving
extent noun the range over which something extends

There are still a few **extant** copies of Cooper's monograph on the epididymis
 The true **extent** of infertility in the prison population is not known

See: [Amount/extent](#), [Degree/extent/rate](#)

Extinction (E)

former terminology for absorbance

See: [Absorbance/transmittance](#)

Extra/extra-

<i>extra</i>	adjective adverb	added to an existing or usual amount or number to a greater extent than usual, especially	They added extra sucrose to raise the osmolality He was giving extra attention to the grammar Installation costs HK\$ 600 extra The osmolytes appear in the extra -cellular space
<i>extra-</i>	prefix	beyond, in addition to, outside	

See: [Prefix list](#)

ALERT Check that there is **no confusion** over the role of **extra**

Gene over-expression results in the formation of **extra** retinal tissue
ERROR *Semantics:* ambiguous, **it is unclear which** meaning of **extra** is meant
so **this could be interpreted as**
additional retinal tissue is formed
or
tissue is formed **outside** the retina

CORRECT [if the **former** is meant] by
replacing extra by additional

Gene over-expression results in the formation of **additional** retinal tissue

CORRECT [if the **latter** is meant] by
using a hyphenated adjective

Gene over-expression results in the formation of **extra-retinal** tissue

Extreme condition of corrosion/swelling

Style: verbosity, can be shortened: replace by **badly corroded/greatly swollen**

Extremely

highest possible, ultimate, utmost

NOTE *Overused word:* often used unnecessarily [**omit**]

Fabricate

to make

Facilitate

to aid, to help

Facilitated

made easy or easier

Style: replace by **what was facilitated**

Fact/ground

<i>fact</i>	undisputed knowledge supported by evidence	The facts supported his hypothesis They argue the need for new students from the fact that the Impact Factors is falling [the falling Impact Factor has been proven]
<i>ground</i>	a basis for belief, action or argument unsupported by evidence	The examiner had ground for believing that the student had cheated They argue the need for new students on the ground that the number of quality publications is falling [the falling number of high quality publications is not accepted by all]

See: [From the fact\(s\)/on the ground\(s\)](#)

Factitive verbs

See: [Causative/complex transitive verbs](#)

Factor

NOTE *Vague word:* often used unnecessarily, replace by a **more specific word** [**omit**]

Factor/factor in

<i>factor</i>	noun	This is a factor we account for in our calculations
<i>factor in</i>	noun and preposition phrasal verb	This was a factor in his decision to take something into account This is something we factor in to our calculations

NOTE *Overused word:* often used unnecessarily [**omit**]

ALERT Check whether **factor** is necessary

His superior effort was a major **factor** in his winning the poster prize
STYLE *Verbosity:* can be shortened

CHANGE by **rewriting the sentence** and **omitting factor**
He won the poster prize by putting in more effort

Facultative/obligate

<i>facultative</i>	capable of, but not restricted to, a particular mode of life	<i>E. Coli</i> is a facultative anaerobic bacterium
<i>obligate</i>	restricted to a particular function or mode of life	The malaria <i>Plasmodium</i> is an obligate intracellular parasite

Failing/failing that

<i>failing</i>	gerund (verbal noun)	Failing his exams would put exclude him from taking the position
	participle (verbal adjective)	The failing health of the animals led to their withdrawal from the study
<i>failing that</i>	prepositional phrase (in the case that this fails)	If there is no effect, administer for a longer period; failing that , increase its dose

Fairly

to a moderately high degree

NOTE Vague word: **avoid**

Fallacious/sophistry/specious

<i>fallacious</i>	adjective	based on a mistaken belief, obviously false	His were interesting yet fallacious arguments
<i>sophistry</i>	count noun	a fallacious argument	He excels at sophistries
	mass noun	the use of clever but false arguments, with the intent to deceive	To argue that I benefitted from this is sophistry
<i>specious</i>	adjective	apparently convincing but incorrect, misleading, unsound	He provided specious arguments for his results

Fallopian/fallopian tube

Fallopian Names (proper nouns) take an initial capital letter

See: [Common/proper nouns](#)

Familiarity/familiarisation

<i>familiarity</i>	close knowledge of something or someone	His familiarity with optics made him the best one to fix the microscope
<i>familiarisation</i>	the process of making something better understood	The company has a course of familiarisation with their microscopes

ALERT Check that **familiarisation** is the intended word

The first results were omitted to avoid errors resulting from the initial users' lack of **familiarisation** with the computer program

ERROR *Semantics*: the initial users **lacked knowledge of the computer program** not of the process of becoming familiar with it

CORRECT by **replacing familiarisation by familiarity**

The first results were omitted to avoid errors resulting from the initial users' lack of **familiarity** with the computer program

Far/way

<i>far</i>	adjective	situated at a distance	It is in the far corner of the lab.
	adverb	by a great deal	I can now do it far better than before
		at, to or by a great distance	The laboratory is far away
<i>way</i>	noun	a course of travel or route	That is the way to the laboratory
	is not an adverb		

ALERT Check that **way is not** used as an **adverb**

Their knowledge was **way** above mine

ERROR *Syntax*: **way** is a **noun** used here as an **adverb** defining the adverb (**above**)

CORRECT by

replacing way by far or well

Their knowledge was **far/well** above mine

using way as a **noun** by **inserting a long**

Their knowledge was a **long way** above mine

Farmers/farmer's/farmers'/Farmer's/Farmers' market

<i>farmers market</i>	a market run by and for farmers
<i>farmer's market</i>	a market owned by one farmer
<i>farmers' market</i>	a market owned by several farmers
<i>Farmer's market</i>	a market owned by someone named Farmer
<i>Farmers' market</i>	a market owned by the Farmer family

See: [Genitive \(possessive\) case](#), [Nouns as adjectives](#), [Student/student's/students'](#)

Farther/farthest/further/furthest

<i>farther</i>	comparative of far			
	of greater distance, further	adjective	literal	The farther door led to the culture room
		adverb	literal	New York is farther from Sydney than from London
<i>farthest</i>	superlative of far			
	of greatest distance, furthest	adjective	literal	The farthest door led to the culture room
		adverb	literal	Sydney is the farthest away from here
<i>further</i>	comparative of far			
	of greater distance, farther	adjective	literal	The further door led to the culture room
		adverb	literal	New York is further from Sydney than from London
	of greater time	adjective	figurative	He left without further delay
		adverb	figurative	His epididymal knowledge went back further than that
<i>furthest</i>	superlative of far			
	of greatest distance, farthest	adjective	literal	The furthest door led to the culture room
		adverb	literal	Sydney is the furthest away from here

of greatest time

adjective figurative
adverb figurativeThis was the **furthest** thing from my mind
His epididymal knowledge went back the **furthest** of us allSee: [Further](#)**Fast/fastly**

fast	adjective	moving or capable of moving at high speed	The spermatozoa were fast
	flat adverb	at high speed	They travelled fast
fastly	as fast is a flat adverb, it needs no suffix (ly) to make it one		

Faster speedPleonasm: as **fast** means at high speed, **speed** is **superfluous**: use **faster****Fauna/faunas**

fauna	fauna is a singular collective noun, which has no plural the plural form takes a partitive construction	The fauna of this ecosystem is unique Several types of fauna characterise this region of the river
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Favourto feel or show approval or preference for
[**only people** can **favour things**]**ALERT** Check that **favour** applies to humansFulvestrant **favoured** the localisation of prominin 1 on the microvilli in the caput and corpus epididymidis**ERROR** **Syntax: Fulvestrant is insentient and cannot favour anything****CORRECT** by **replacing favoured by increased**Fulvestrant **increased** the localisation of prominin 1 on the microvilli in the caput and corpus epididymidis**Feasible/unfeasible**

feasible	capable of being put into practice, practicable
unfeasible	cannot be done, incapable of being put into practice, impracticable

See: [Practicable/practical/practicality](#), [Impracticable/impractical](#)**Feature****NOTE** **Vague word:** often used unnecessarily, replace by a **more specific word [or omit]****Feed/give a diet**

give	diets are given	[animals are fed]
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ALERT Check whether **diet** or **feeding** is meantThe animals were **fed** a **diet** enriched in cholesterol and fat**ERROR** **Syntax:** as **animals** are **fed** but **diets** are **given**, one word is **incorrect****CORRECT** by **using one or the other**, not both, by**replacing fed by given**The animals were **given** a **diet** enriched in cholesterol and fat**replacing a diet by chow**The animals were **fed chow** enriched in cholesterol and fat**Feel/feel as if/feel like/feel that**

feel	intransitive verb	to experience	with no object	The organ felt firm and moist
	transitive verb	to be aware of by touch	followed by an object	I felt the organ for its texture
feel as if	to feel with the conjunctive phrase as if	to appear that	followed by a clause	It feels as if it is turning septic
feel like	to feel with the preposition like	to have the feel of	followed by a noun	It felt like a tumour After being sick I felt like an idiot After winning I felt like celebrating After celebrating I felt like vomiting He feels that he is becoming a nuisance
	a compound verb	to be inclined to	followed by a gerund	
		to have the urge to	followed by a gerund	
feel that	to feel with the conjunction that	to have an impression	followed by a clause	

See: [As if/though](#)**ALERT** Check that **like is not** used as a **conjunction**I **feel like** I've been here before**ERROR** **Syntax:** **like** is used here as a **conjunction** joining two clauses**CORRECT** by **replacing like by as if, as though or that**I **feel as if/as though/that** I've been here before**Feet/foot**

feet	noun	plural of foot	non-metric unit of measurement	The epididymal tubule is 21 feet long
foot	noun	non-metric unit of measurement		The post is one foot long [1 ft = 12 inches ≈ 30.5 cm]
	as noun adjunct			Man has a 5- foot -long epididymal tubule

Female/male

female	adjective	of the sex able to give birth or produce fruit	She is a female police officer
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	noun	a female animal, woman, girl	[one who is female] Non-pregnant females are needed as controls
	noun adjunct	pertaining to females	The female toilets are on the left
			[toilets for females (ladies/women/girls) to use]
male	adjective	of the sex unable to give birth or produce fruit	He is a male nurse
			[one who is male]
	noun	a male animal, man, boy	Caucasian males from 20 to 30 years of age are sought
	noun adjunct	pertaining to males	The male changing rooms are ahead

Fertile/fertility

fertile	adjective	These are fertile patients
fertility	noun	The patient presented with reduced fertility

Fertilisable/fertilising

fertilisable	adjective	able to be fertilised	The freshly ovulated oocyte is potentially fertilisable
fertilising	participle	capable of fertilising	Mature spermatozoa from the cauda epididymidis are potentially fertilising

ALERT Check that **fertilisable** is the correct word

The potentially **fertilisable** spermatozoa are acrosome-reacted

ERROR *Semantics*: this implies that the **spermatozoa** can be fertilised

CORRECT [as the oocyte is potentially fertilisable] by

replacing **fertilisable** by **fertilising**

The potentially **fertilising** spermatozoa are acrosome-reacted

Fertilised oocyte/ovum

oocyte an ovum cannot be fertilised since it results from fertilisation of a secondary oocyte

See: [Gametogenesis](#)

Few

a minority of, a small number, not many, some

See: [A few/few](#), [Few is/are](#), [Few... is/are](#), [Few of... is/are](#), [Few/little](#), [Few/several](#), [Just/quite a few](#)

Few/fewer

few	the absolute (positive) form of the adjective used with comparative prepositional phrases	There were few offspring compared with the control group I spend few hours in the library [not enough time]
fewer	the comparative form of the adjective used with the conjunction than	There were fewer offspring than in the control group I should spend fewer hours on the office [time in general]

ALERT Check that **fewer is not** used with phrases **implying a comparison**

There were **fewer** offspring **compared with/in comparison with** the control group

ERROR *Tautology*: as **fewer** is a **comparative** adjective, and the prepositional phrases **imply a comparison**, one term is **superfluous**

CORRECT by **using one or the other**, not both, by

replacing **compared with/in comparison with** by **than in**

There were **fewer** offspring **than in** the control group

replacing **fewer** by **few**

There were **few** offspring **compared with/in comparison with** the control group

Few/little

few	a small number of, not many, some for count nouns with the plural	Few students were present at the seminar There are too few cages for the number of mice We found few spermatozoa in the treated epididymis (not many spermatozoa)
little	small in amount, degree or size for mass nouns with the singular for count nouns	Little discussion is anticipated after the talk There is too little Ca ²⁺ in the medium We found little spermatozoa in the treated epididymis (small spermatozoa)

See: [A few/few](#), [A little/little](#), [Few/several](#), [Just/quite a few](#)

Few/several

few	a small number of, not many, some fewer than several used after only for emphasis	When the inhibitor was used few cells were killed [emphasises the majority that survived] Only a few posters were accepted for the meeting [emphasises the low number]
several	more than two or three, but not many more than few not used after only	When the inhibitor was used several cells were killed [emphasises the minority that died]

NOTE *Vague words*: often used unnecessarily [**omit**]

See: [A few/few](#), [Few/fewer](#), [Few/several](#), [Just/quite a few](#), [Many/multiple/numerous/several](#)

ALERT Check that **several** *is not* used with **only**

In the presence of MG132 **only several** perforations were observed

ERROR *Syntax:* **only** (emphasising exclusivity) applies to numbers lower than those implied by **several**

CORRECT [if the number of perforations is considered **high**] by omitting **only**

In the presence of MG132 **several** perforations were observed

CORRECT [if the number of perforations is considered **low**] by

replacing **several** by **a few**

In the presence of MG132 **only a few** perforations were observed

Few in number

Tautology: as **few** implies a low number, **in number** is *superfluous*: replace by **few**

Few is/are

are what **few** *refers to* (a plural group) is the subject Regarding these **theses**, **few are** so thick as this one

Few... is/are

are what **few** *refers to* (a plural group) is the subject **Few theses are** so thick as this one

Few of... is/are

are what **few of** *refers to* (a plural group) is the head noun **Few of the students are** good enough to speak at the meeting

Fewer/less/more

fewer inferior comparative adjective used with a **smaller number** of **indivisible count** nouns and **mass** nouns with **quantifiers**

less inferior comparative adjective used with a **smaller number** and **amount** of **divisible count** nouns

more superior comparative adjective used with a **larger number** and **amount** of **divisible and indivisible count and mass** nouns

See: [Fewer](#), [Less as inferior comparative](#), [More as superior comparative](#)

Fewer/less affordable/severe

fewer as comparative adjective followed by **than** There were **fewer** affordable houses here **than** there (not as many affordable houses)
There were **fewer** severe cases locally **than** countywide (not as many severe cases)

less as an adverb defining an **adjective** There were **less affordable** houses here (not as affordable houses)
There were **less severe** cases locally (not as severe cases)

Fewer/less data

fewer data **data** is a plural noun There are **fewer data** on guinea pigs than rats or mice

See: [Data is/are](#)

Fewer

inferior comparative of the adjective **few**

a **smaller number** of **indivisible** nouns

fewer... [than] plural count nouns

plural quantifiers

fewer than... plural count nouns

...fewer [than] plural count nouns

There were **fewer cases** locally **than** countywide

We then had **fewer choices** **than** now

We now have **fewer patients** **than** before

The patients have **fewer spermatozoa** **than** the fathers

I have **fewer samples of semen** to analyse **than** you

Add **fewer drops of acid** to adjust the pH

I have **fewer than 10 dollar notes**

Fewer than 15 students were attending the lecture were

Mary has **two fewer children** **than** Kate

Mary has **two children fewer** **than** Kate

She has **five fewer publications** **than** he

She has **five publications fewer** **than** he

See: [Count/mass nouns](#), [Counting/denominate/measurement numbers](#), [Few/fewer](#), [Fewer/less affordable/severe](#), [Fewer/less data](#), [Fewer/less/more](#), [Less as inferior comparative](#), [More as superior comparative](#)

Fewer in number

Tautology: as **fewer** implies number, **in number** is *superfluous*: replace by **fewer**

ALERT Check that only **one word** is used with words **reflecting low numbers**

There is an association between a **fewer number** of testicular biopsies and post-operative testosterone levels

ERROR *Pleonasm:* as **fewer** means a **lower number**, one word is *superfluous*

CORRECT by using **one or the other**, not both, by

replacing **fewer** by **lower**

There is an association between a **lower number** of testicular biopsies and post-operative testosterone levels

omitting a number of

There is an association between **fewer** testicular biopsies and post-operative testosterone levels

Figuratively/literally

figuratively departing from a literal use of words, metaphorical
literally in a literal manner or sense, exactly

'I laughed until I died, **figuratively** speaking of course'
 'Epididymis' **literally** means 'upon the twins [testes]'
 He **literally** laughed until he died: his funeral is next week

See: [Ex officio](#), [Metaphor/simile](#)

ALERT Check that **literally** is not used figuratively

He **literally** killed me when I misspelt 'epididymis'
ERROR *Oxymoron*: the dead cannot speak of their grammatical errors
CORRECT [if no one was killed] by
 replacing **literally** by **figuratively**
 He killed me, **figuratively**, when I misspelt 'epididymis'
CORRECT [if someone was killed] by
 rewriting **the sentence** by omitting **literally** and using the **third person**
 He killed **her** when **she** misspelt 'epididymis'

Figure

See: [Digit/figure/number/numeral](#), [Figures/tables](#)

Figures/tables

figures for **highlighting clear differences** in values between groups
 where **lines may diverge** and **symbols and errors bars do not overlap**
 [Tables here require **concentrated attention to locate the superscript indices** of statistical differences between columns or rows]
tables for **displaying little change** in values between groups
 where there are **overlapping symbols** and **error bars**
 [Figures here may show **parallel lines** that are **difficult to distinguish** and **error bars** that **overlap**]
 for **presenting entire data-sets**
 where there are large amounts of data to present
 [Figures here have too many bars or lines and details become too complicated to appreciate]

Figure of speech

a word or phrase used in a non-literal sense for rhetorical or vivid effect

See: [Figuratively/literally](#), [Metaphor/simile](#)

Fill in/out

fill in to complete an outline or template or form She **filled in** the Conflicts of Interest Form
fill out to enlarge a sketch or extend an idea In the review he **filled out** his ideas on cytoplasmic droplets and osmolyte reserves

ALERT Check that **fill in** and **fill out** are not confused

He **filled out** his application form
ERROR *Syntax*: forms are **fixed** in size and **cannot** be enlarged
CORRECT by replacing **filled out** by **filled in**
 He **filled in** this application form

Filled

See: [Containing/filled with](#)

Filled/solid symbols

filled The plot consists of empty, **filled** and shaded symbols
solid incorrect for 2D-graphs a solid symbol is three-dimensional

Filtered/filtrated

filtered past participle of the verb to filter The solution was **filtered** to remove precipitated material

See: [Back-formation](#)

Final conclusion

Pleonasm: as a **conclusion** is a final statement, final is **superfluous**: use **conclusion**

Finalise

to bring to an end, to complete, to end

Finally

See: [At last/finally](#)

Find/found

find to discover or perceive by chance or unexpectedly
 past tense and past participle **found**
 [**only people and animals** can **find** something]
 Did you **find** the Institute easily?
 They **found** the Institute with no difficulty
found to establish or to originate
 past tense and past participle **founded**
 [**only people** can **found** something]
 They decided **to found** a British Andrology Society
 The British Andrology Society was **founded** in 1989

See: [Found/founded](#)

ALERT Check that the use of **found** is makes sense

These methods are used in all laboratory setting as they **found** clinical application

ERROR *Syntax*: **methods** are **insentient and cannot** found anything

CORRECT by

replacing **found** by **are the foundation for**

These methods are used in all clinical setting as they **are the foundation for** clinical application

replacing **found** by **are the basis of**

These methods are used in all clinical setting as they **are the basis of** clinical application

Find/reveal

find to discover by chance or unexpectedly

Small nodules were **found** in the efferent ducts of all the infertile males

to identify as being present

We **found** that androgen receptor expression declined distally in the epididymis

reveal to expose something hidden

Removing the tunica **revealed** the tubules below

The analysis **revealed** that androgen receptor expression declined distally in the epididymis

See: [Detect/determine/examine/inspect](#)

Find/find out

find to discover or perceive by chance or unexpectedly

I **found** that the UV light had been left on during the night

to discover after a deliberate search

He **found** the lens in the microscope desk drawer

to identify something as present

myo-Inositol is **found** in epididymal fluid

find out to discover a fact, to learn by study

I've had no time to **find out** why the article was not submitted on time

First/firstly

first ordinal number

coming **before all others** in time or order, earliest

He published **first** in this field

adjective

occurring in position number **one**

Retzius was the **first** to describe the cytoplasmic droplet

in a list

He made two **objections**: it was **first** too far; second, too expensive

adverb

happening before other actions in time or order

He **first** air-dried the cells, then fixed and stained them

firstly as **first** is a **flat** adverb, it **needs no suffix (ly)** to make it one

See: [Adverbs](#), [Back-formation](#), [First/first of all](#)

ALERT Check that **first is not** used with words **implying an initial event**

The plans were **first conceived** after a brainstorming session

ERROR *Pleonasm*: as things can be conceived only once, **first** is **superfluous**

CORRECT by **omitting first**

The plans were **conceived** after a brainstorming session

His ideas were **first introduced** at Epididymis IV

ERROR *Pleonasm*: as things can be introduced only once, **first** is **superfluous**

CORRECT by **omitting first**

His ideas were **introduced** at Epididymis IV

ALERT Check that the position of **first does not** cause **ambiguity**

We report **for the first time** the sperm motility of vitamin K-deficient rats

ERROR *Semantics*: ambiguous

so **this could be interpreted as**

it was the first time that it **has been done**

or

it was the first time that **we** had done it

CORRECT [if the **former** is meant] by **rewriting the sentence** by

omitting mention of **we**

This study reports for the first time the sperm motility of vitamin K-deficient rats

CORRECT [if the **latter** is meant] by

stressing our laboratory

This is the first time **that our laboratory** has reported the sperm motility of vitamin K-deficient rats

GRP78 was **first** identified in human spermatozoa in the lysate (Mitchell et al)

ERROR *Semantics*: ambiguous, it is **unclear** what **first** refers to, the event, the cell, the species, the extract

so **this could be interpreted as** Mitchell et al. being the first to demonstrate GRP78

at all

[in **any** cell type]

or

in spermatozoa

[in this **cell type**]

or

in human spermatozoa

[in spermatozoa of this **species**]

or

in human sperm lysates

[in this sperm **fraction**]

CORRECT [if the **1st** is meant] by

restricting what is attributed to Mitchell et al. to the **first identification** in **cells**

GRP78 was **first** identified in **cells** by Mitchell et al. using **human sperm lysates**

CORRECT [if the 2nd is meant] by

restricting **what is attributed** to Mitchell et al. to the **first identification** in *spermatozoa*
GRP78 was **first** identified in *spermatozoa* by Mitchell et al. using *human cell lysates*

CORRECT [if the 3rd is meant] by

restricting **what is attributed** to Mitchell et al. to the **first identification** in *human spermatozoa*
GRP78 was **first** identified in *human spermatozoa* by Mitchell et al. using *cell lysates*

CORRECT [if the 4th is meant] by

restricting **what is attributed** to Mitchell et al. to the **first identification** in *lysates of human spermatozoa*
GRP78 was **first** identified in *human sperm lysates* by Mitchell et al.

ALERT Check that **first** is used as an adverb

Four healthy donors were asked **firstly** to provide three ejaculates on day 0, **secondly** to abstain from sexual activity for various periods, and **thirdly** to produce another three ejaculates after each period

ERROR *Syntax*: the adverbial form is **first not firstly**

CORRECT by

replacing **firstly** by **first**

Four healthy donors were asked **first** to provide three ejaculates on day 0, **secondly** to abstain from sexual activity for various periods, and **thirdly** to produce another three ejaculates after each period

replacing **firstly** by **first** and the *adverbial* forms of **second**, **third** by the *adjectival*

Four healthy donors were asked **first** to provide three ejaculates on day 0, **second** to abstain from sexual activity for various periods, and **third** to produce another three ejaculates after each period

First/first of all

first The tubules were **first** separated

first of all **First of all** the tubules were separated

Style: **of all** is *unnecessary*, **first** alone is *sufficient*

First/former

first refers to **more than two** things

Of the available options, physiology, biochemistry and anatomy, he studied the **first**

former refers to **only two** things

Of the available options, physiology and biochemistry, he studied the **former**

See: [Ex-former](#)

First-/last-mentioned

first-mentioned for the first of **more than two listed** items

Of physiology, biochemistry and pharmacology, he preferred the **first-mentioned**

last-mentioned for the last of **more than two listed** items

Of physiology, biochemistry and pharmacology, she preferred the **last-mentioned**

See: [First/former](#), [Former/latter](#), [Last/latter](#)

First-/last-named

first-named for the first of **more than two** people

Yeung, Cooper and Barfield worked in Germany, but the **first-named** was from Hong Kong

last-named for the last of **more than two** people

Although Cooper, Yeung and Barfield worked in Germany, the **last-named** was American

See: [First/former](#), [Former/latter](#), [Last/latter](#)

First and foremost

Style: cliché, replace by **one or the other**

Fish/fishes

fish singular noun one individual animal of one species of fish

Dissect that Zebra **fish**

plural noun more than one fish of one species

He worked on Zebra **fish**

fishes plural noun more than one species of fish

He studied freshwater **fishes** of the Hong Kong coastline

Fix/fixate

fix to preserve of biological material

He **fixed** the epididymis in glutaraldehyde

fixate to develop an obsessive attachment to someone or something

He has long been **fixated** on a post-testicular contraceptive for men

[*only people* can **fixate**]

to direct one's eyes towards

During the test the child must **fixate** on spot in the centre of the screen

Fixated/fixed

fixated to have developed an obsession

He was **fixated** on cytoplasmic droplets: their formation, function and loss

fixed preserved (of biological material)

He **fixed** the cytoplasmic droplets in isotonic medium containing glutaraldehyde

immobilised

The organ was **fixed** in polymerised collagen to permit time-lapse photography of luminal contents

Fixation

a procedure that preserves the structure of biological material
an obsessive attachment with something or someone

Fixation involved immersion of the whole organ in Bouin's fluid overnight
He had a **fixation** on sperm cytoplasmic droplets

ALERT Check that **fixation** is *not* repeated in adjacent words

The epididymal tissues were **fixed** in Bouin's **fixative**

ERROR *Tautology*: as a **fixative** causes things to be **fixed**, one word is *superfluous*

CORRECT by using **one or the other**, not both, by

replacing **fixed** by **immersed**

The epididymal tissues were **immersed** in Bouin's **fixative**
replacing **fixative** by **solution**

The epididymal tissues were **fixed** in Bouin's **solution**

fl/fl. (Latin)

fl	femtolitre	a unit of volume	10 ⁻¹⁵ litre	
fl.	abbreviation of Floruit	flourished	indicates when a historical figure lived	Publications from Gough (fl. WWII) are out of copyright

See: [Prefixes for decimal multipliers](#)

Flagella/flagellar/flagellum

flagella	plural noun	Each algal cell has two flagella	
flagellar	genitive form	The flagellar curvature increases during hyperactivation	[curvature of the flagellum]
flagellum	singular noun	Each spermatozoon has one flagellum	

See: [Cilia/flagella/microvilli](#)

Flammable/inflammable/non-flammable

flammable	current usage	easily ignited
inflammable	out-dated usage	easily ignited
non-flammable	current usage	not easily ignited

NOTE **inflammable** is confusing [the prefix **in** sometimes means **not**], **avoid**, use **non-flammable**

Flat adverbs

are the same as the adjective fast (**not** fastly) first (**not** firstly)

Flaunt/flout

flaunt	to show off by ostentatious display
flout	deliberately to break an agreement or a convention, rule, principle

Flora/floras

flora	flora is a singular collective noun, which has no plural the plural form takes a partitive construction	The flora of the region is exceptionally beautiful Several types of flora characterise this region of the forest
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Floruit

See: [fl/fl.](#)

Flout

See: [Flaunt/flout](#)

Flow cytometer

See: [Cyto-meter/-metric/-metry](#)

Flourescence/fluorescence

fluorescence **Fluorescence** microscopy is the procedure of choice here

Fluid/plasma

fluid	of a biological liquid usually containing cells		
	blood	obtained from blood vessels	with erythrocytes, leukocytes
	epididymal fluid	obtained from the epididymal lumen	with epididymal spermatozoa (epididymal semen)
	seminal fluid	the ejaculate	with ejaculated spermatozoa (ejaculated semen)
	testicular fluid	obtained from the rete testis	with testicular spermatozoa (testicular semen)
plasma	of a biological fluid from which cells have been removed, usually by centrifugation		
	blood plasma	prepared from blood	free of erythrocytes, leukocytes
	epididymal plasma	prepared from epididymal fluid	free of spermatozoa
	seminal plasma	prepared from seminal fluid	free of spermatozoa
	testicular plasma	prepared from testicular fluid	free of spermatozoa

See: [Semen](#)

Fluorescence/fluorescent

fluorescence	noun	luminescence emitted by a fluorescent dye	A fluorescence microscope detects fluorescence
fluorescent	adjective	having or showing fluorescence	Fluorescent dyes are used to produce fluorescent sections

See: [Epi-fluorescence/fluorescence](#), [Immuno-fluorescence/-fluorescent](#), [Incandescence/luminance/luminescence](#)

ALERT Check whether **fluorescent** or **fluorescence** is meant

The slides were examined in a **fluorescent** microscope

ERROR *Semantics*: this means that the **microscope was fluorescing**

CORRECT [if the **slides** were fluorescing] by

replacing **fluorescent** by **fluorescence**

The slides were examined in a **fluorescence** microscope

Fluorescence/phosphorescence

For

conjunction	for that reason, because, since	He was the last to arrive for he was old
preposition	reflecting a duration with ordinal numbers	The experiments were repeated for a third time
	cardinal numbers with nouns	The incubation lasted for 30 minutes
		I worked in Germany for 24 years

NOTE Overused word: often used unnecessarily [omit]

See: [Cardinal/ordinal numbers](#), [During/for/while](#), [Before/for](#), [For free/nothing](#), [For/since/until](#)

ALERT Check that **for is not** used with words **implying a preposition**

The experiments were repeated **for** four times
ERROR *Syntax*: as **times** implies a preposition (**on** several occasions), there is **no need** for an **additional** preposition (**for**) before it
CORRECT by
omitting the preposition for
 The experiments were repeated four times
replacing for by on and times by occasions
 The experiments were repeated **on** four **occasions**

For/since/until

for	as preposition	refers to a duration of time implies a completed action	with the past tense	I lived in Germany for 24 years	[but no longer do]
since	adverb	relates to a specific instant in time implies a continual action	with the present perfect tense	I have lived in Germany since 1985	[and still live there]
until	preposition	relates to a specific instant in time implies a completed action	with the past perfect tense	I had lived in Germany until I moved to the UK	

See: [Because/for/since](#), [During/for/while](#), [Had/has been](#), [For](#), [Since](#)

ALERT Check that **since** as a preposition is used correctly

We have lived here **since** three years
ERROR *Syntax*: since requires a specific time **but none is given**
CORRECT by
replacing since by for
 We have lived here **for** three years
replacing three years by a date
 We have lived here **since 1984**

Since April the journal stopped charging for colour pages
ERROR *Semantics*: **since** implies a **continuing** action but the imperfect **stopped** indicates that the action is **complete**
CORRECT [if the action is **complete**] by
replacing since by in
In April the journal stopped charging for colour pages
CORRECT [if the action is **continuing**] by
using the present perfect to indicate continuity
Since April the journal **has stopped** charging for colour pages

For example/such as

for example	prepositional phrase	used to introduce some items of a complete listing often chosen as a typical case	She added growth factors, for example VEGF, TGF, to the cultures
such as	relative pronoun phrase	used to introduce some items of a complete listing items included in a larger category	She added growth factors, such as VEGF and TGF, to the cultures
		can be together can be separated	She added such growth factors as VEGF and TGF to the cultures

See: [As such/such as](#), [e.g./i.e.](#), [Like/such as](#)

ALERT Check that **for example is not** used with words **implying incomplete listings**

Stem cell markers **such as** OCT3/4 and NANOG, **for example**, were examined in tissue sections
ERROR *Tautology*: as both **such as** and **for example** imply that examples **will follow**, one phrase is **superfluous**
CORRECT by **using one or the other**, not both, by
omitting for example
 Stem cell markers **such as** OCT3/4 and NANOG were examined in tissue sections
omitting such as and inserting the
The stem cell markers OCT3/4 and NANOG, **for example**, were examined in tissue sections

The experiments involved methods **such as** cell culture, immuno-histochemistry and western blotting **for example**
ERROR *Tautology*: as both **such as** and **for example** imply that examples **will follow**, one phrase is **superfluous**
CORRECT by **using one or the other**, not both, by
omitting for example
 The experiments involved methods **such as** cell culture, immuno-histochemistry and western blotting

omitting **such as** and replacing **methods such as** by **for example, the methods of**

The experiments involved, **for example, the methods of** cell culture, immuno-histochemistry and western blotting

ALERT Check that **for example is not** used with words **implying explanation**

For example, in this regard, it has been demonstrated that sperm recovered after swim-up are highly motile

ERROR *Tautology*: as both **for example** and **in this regard** indicate a link to a previous statement, one phrase is **superfluous**

CORRECT by using **one or the other**, not both, by

omitting **in this regard**

For example, it has been demonstrated that sperm recovered after swim-up are highly motile

omitting **for example**

In this regard, it has been demonstrated that sperm recovered after swim-up are highly motile

For free/nothing

for free **free** as an **adverb** means **without** cost or payment, so **needs no** additional **preposition (for)** before it
use **free** Download this **free**

for nothing **nothing** as a **pronoun** **needs a preposition (for)** before it Download this **for nothing**

See: [Free/freely/nothing](#), [Gratis](#)

ALERT Check which meaning of **free** is intended

Download the program **for free**

ERROR *Syntax*: this means **for without** cost (two prepositions)

CORRECT by

omitting the **preposition**

Download the program **free**

replacing **free** by **nothing**

Download the program for **nothing**

For real/real

for real **layman** terminology, colloquial speech replace by **true**
real as an adjective true or actual **needs no preposition (for)** before it I am convinced this is **real**

For sure/sure

for sure **layman** terminology, colloquial speech replace by **certain/without doubt**
sure as an adjective the belief that something is certain **needs no preposition (for)** before it I am **sure** this is true

For the duration of

Style: verbosity, can be shortened: replace by **during/while**

For the investigation of/to investigate

for the investigation of prepositional phrase A vapour pressure osmometer is necessary **for the investigation of** epididymal fluid osmolality
to investigate infinitive We used a vapour pressure osmometer **to investigate** the osmolality of epididymal fluid
[**only people** can investigate]

See: [For the purpose of/in order to](#), [In order to/so as to/to](#)

ALERT Check that **to investigate** has a relevant subject

These remain the methods of choice **to investigate** the epididymal epithelium and spermatozoa

ERROR *Semantics*: the **only subjects mentioned** that could investigate are **methods**
but **methods** are **insentient and cannot** deliberately perform investigations

CORRECT [if **unnamed others** were to investigate] by

replacing the **to investigate** by a **for the investigation of**

These remain the methods of choice **for the investigation of** the epididymal epithelium

inserting a **human element**

These remain the methods of choice **for us to investigate** the epididymal epithelium

For the purpose of

Style: verbosity, can be shortened: replace by **for/to**

For the purpose of/in order to

for the purpose of in order to followed by a **gerund** **For the purpose of assessing** cell volume, flow cytometry was used
in order to for the purpose of, so as to, to followed by a **full infinitive** **In order to determine** cell volume, we used flow cytometry
[**only people** do things **purposefully**]

NOTE can create ambiguity if the **purpose phrase** precedes the **principal clause**

See: [In order for/of/that/to](#), [In order to/so as to/to](#)

ALERT When the **purpose phrase** begins a sentence **check** that it relates to subjects capable of rational thought

In order to determine cell volume, flow cytometry was used

ERROR *Semantics*: discourteous, the reader **expects** the **main clause** to identify **who determined cell volume**, but equipment is cited
flow cytometry is **insentient and cannot** determine cell volume

CORRECT [if **unnamed others** were to determine cell volume] by
 using the **passive** voice in the subordinate clause
In order for cell volume **to be determined**, flow cytometry was used
 inserting a **human element** and the **active voice**
In order to determine cell volume, **we used** flow cytometry
rewriting the sentence
 Cell volume was determined by flow cytometry

For the reason that

Style: verbosity, can be shortened: replace by **as/because/since**

For the simple reason that

Style: verbosity, can be shortened: replace by **as/because/since**

Forbear/forebear

<i>forbear</i>	verb	to avoid, to refrain	He modestly forbears to include his own work
<i>forebear</i>	noun	an ancestor	One of my forebears was a doctor

Forbid/prohibit

<i>forbid</i>	followed by a full infinitive	Students are forbidden to go into the culture room
<i>prohibit</i>	followed by from and a gerund	Students are prohibited from going into the culture room
	followed by a noun	The law prohibits entry into culture rooms without supervision

Forcep/forceps

<i>forceps</i>	forceps is a plural noun that has no singular	The forceps are being sterilised
	the singular form takes a partitive construction	A very fine pair of forceps is needed for this technique

See: [Singular/plural nouns](#)

Forecast/forecasted

<i>forecast</i>	the present, past tense and past participle of the verb to forecast	They forecast rain in the afternoon
-----------------	---	--

Forego/forgo

<i>forego</i>	to go before, to proceed	His winning the best presentation award was a foregone conclusion
<i>forgo</i>	to do without, to give up	Because I heard his seminar last week, I shall forgo tomorrow's lecture

Foreign words

italicised	to indicate	a foreign origin	Latin	<i>circa</i>	<i>e.g.</i>	<i>etc.</i>	<i>i.e.</i>	<i>in silico</i>	<i>in situ</i>	<i>in vitro</i>	<i>in vivo</i>	<i>inter alia</i>
		species	French	<i>en masse</i>		<i>tête-à-tête</i>		<i>vis-à-vis</i>				
				<i>Macaca mulatta</i>		<i>Homo sapiens</i>						
not italicised	when accepted as English	fertilisation in vitro/in vivo				(in-vitro/in-vivo fertilisation)						
		studies in situ/in silico				(in-situ/in-silico studies)						
		caput epididymidis										

NOTE the **use of italics** is dictated by journal style

See: [Genus/species](#), [Italic/italics](#)

Forget

to fail to remember	present tense	forget	I forget when I first met her
	past tense	forgot	I forgot to charge my mobile phone last night
	present participle, gerund	forgetting	I was forgetting you used to work here
	past participle	forgotten	I have forgotten my password

ALERT Check that the correct tense of **forget** is used

Forgot your password?

ERROR **Syntax:** ambiguous, questions are posed by subject-verb inversion or the use of auxiliary verbs **to do** or **to have**
 so **this could be interpreted as** your wanting
 to **forget** the password
 or

to **remember** your password

CORRECT [if the former is meant] by

replacing **forgot** by **do** and the infinitive **to forget**

Do you want **to forget** your password?

CORRECT [if the latter is meant] by

replacing **forgot** by **have** and the **past participle**

Have you **forgotten** your password?

Forego

See: [Forgo/forego](#)

Foremost

adjective	most prominent in rank, importance or position	It was the foremost journal at that time
-----------	--	---

adverb before anything else in rank, in the first place It was, **foremost**, a good demonstration of how to present a seminar

See: [First and foremost](#)

Foreword

See: [After-/fore-word](#), [Forward/forwards](#)

Formal saline/formalin

formal saline stock formalin (40% w/v) diluted to 10% (v/v) in **physiological saline** (0.9% NaCl w/v) [final 4% formaldehyde]
formalin stock formalin (40% w/v) diluted to 10% (v/v) in **water** [final 4% formaldehyde]

See: [Dilution](#)

Former/latter

former first, first-mentioned or first-named of **two** people/things Of the authors Yeung and Cooper, the **former** came from Hong Kong
latter last, last-mentioned or last-named of **two** people/things Of the topics anatomy and embryology, he preferred the **former**
 Cooper and Albert each presented posters, but only the **latter** won the prize
 Of electronic sizing and flow cytometry, the **latter** provided better results

See: [Ex-/former](#), [First/former](#), [First-/last-named](#)

Formula/molecular mass

formula mass (formula weight)

the **ratio** of the mass of one **non-molecular crystal lattice component**/the **smallest whole number ratio of atoms** to 1/12 the mass of ^{12}C of a molecule is the sum of the atomic weights of the atoms in its **empirical formula**

the formula mass of	water	(H_2O)	= $[2 \times (1) + 1 \times (16)]$	= 18
	glucose	($\text{C}_6\text{H}_{12}\text{O}_6$)	= $[1 \times (12) + 2 \times (1) + 1 \times (16)]$	= 30
	sodium chloride	(NaCl)	= $[1 \times (23) + 1 \times (35.5)]$	= 58.5

molecular mass (molecular weight)

the **ratio** of the mass of **one molecule** to 1/12 the mass of ^{12}C (dimensionless)

of a molecule is the sum of the atomic weights of the atoms in the **molecular formula**

the molecular mass of	water	(H_2O)	= $[2 \times (1) + 1 \times (16)]$	= 18
	glucose	($\text{C}_6\text{H}_{12}\text{O}_6$)	= $[6 \times (12) + 12 \times (1) + 6 \times (16)]$	= 180
	anhydrous magnesium sulphate	(MgSO_4)	= $[1 \times (24) + 1 \times (32) + 4 \times (16)]$	= 120
	magnesium sulphate hexahydrate	($\text{MgSO}_4 \cdot 6\text{H}_2\text{O}$)	= $[1 \times (24) + 1 \times (32) + 4 \times (16) + 6 \times (18)]$	= 228

See: [Empirical/molecular formulae](#)

Formula/molecular weight

molecular weight (MW)

a synonym of **molar mass** particularly for **molecular** compounds [**but** authoritative sources define it differently]
relative molecular mass (*Mr*: dimensionless) [**but** with units Da or u]
 in **molecular biology** the mass of macromolecules [expressed in kDa, often **approximate** and an **average**]

formula weight (FW)

a synonym of **molar mass** particularly for **non-molecular** compounds [such as ionic salts]

Forth/fourth

forth adverb (formal) out and away from a starting point At 8 a.m. we set **forth**
fourth an ordinal number after **third** and before **fifth** He was **fourth** in Impact Factor rating

See: [Cardinal/ordinal numbers](#)

Fortnightly

See: [Bi-weekly](#)

Fortuitous/inadvertent/serendipitous

fortuitous happening by chance rather than intention [not necessarily beneficial] The similarity between the experimental approaches may simply be **fortuitous**
inadvertent accidental, without intention [neither beneficial or not beneficial] The omission of her name from the list was **inadvertent**
serendipitous occurring or discovered by chance [in a beneficial way] A **serendipitous** encounter at a seminar led to their future collaboration

Forward/forwards

forward adjective forward-looking I am looking **forward** to your reply
 verb to give, to send I shall **forward** the manuscript to the editors next week
forwards adverb towards the front She walked **forwards** to the lectern to give her talk

Forward slash

See: [Slash/solidus](#)

Found/found that

found followed by a **noun** They **found** the **cyst** between the epididymis and the testis
 They **found** no consistent **difference** in weights between treatment groups
found that followed by a **noun clause** They **found that** *the cyst was situated between the epididymis and the testis*
 They **found that** *there was no consistent difference in weights between treatment groups*

Found/founded

found	past tense and past participle of the verb to find	He found the culture dish in the cold-room
founded	past tense and past participle of the verb to found	They founded the British Andrology Society in 1989

See: [Find/found](#), [Find/reveal](#)

Found/showed

found	having been discovered by accident or design [only people can find information]	Smith et al found that guppies have an epididymis
showed	allowed, been or caused to be visible	Smith's study showed that guppies have an epididymis

Found to be

Style: verbosity, can be shortened: replace by **was**

Fourth

See: [Forth/fourth](#)

Fraction/percentage/proportion/ratio

fraction	a part in relation to the whole	expressed as an integer divided by an integer	Half of an amount expressed as a fraction is 1/2
percentage	a part in relation to the whole	expressed in hundredths (%)	Half of an amount expressed as a percentage is 50%
proportion	a part in relation to the whole	expressed as a decimal	Half of an amount expressed as a proportion is 0.5
ratio	a comparison of quantities	expressed with the word -in- expressed with a colon (:) with the word -to-	The proportion of female students is 1-in-1 The ratio of male to female students is 2:1 The ratio of male to female students is 2-to-1

NOTE are all **measurement** numbers, used with **less** not **fewer**

See: [Counting/denominate/measurement numbers](#), [Dilution](#), [Per cent/percentage/percentage of/percentage point](#), [Proportions/ratios](#)

Fraction is/are

See: [A/the fraction is/are](#)

Fraction of... is/are

See: [A/the fraction of... is/are](#)

Free/freely/nothing

free	adjective	available at no cost, without charge	The reprints are free
	adverb	without cost or payment	He gave the samples away free
	verb	to release from confinement	They were freed from quarantine after 21 days
freely	adverb	willingly	He freely spent his weekends helping her with English
nothing	adverb	not at all	He cared nothing for his health
	pronoun	no amount, no expense, nought needs a preposition	He gave away the samples for nothing All his efforts came to nothing

See: [For free/nothing](#), [Naught/nought](#), [Nothing](#)

Freezability/freezable

freezability	noun	the ability to survive freezing and thawing	The freezability of the samples in the extender was good
freezable	adjective	able to be frozen	The samples in the new extender were freezable

See: [Freezing/melting/thawing](#)

Freezing

non-finite forms of the verb to freeze
a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Frozen/frozen-thawed/thawed](#), [Gerunds/participles](#)

Freezing/melting/thawing

freezing	phase change from liquid to solid by cold [to below 0°C for water to ice]	Semen diluted with cryo-protectant was frozen in liquid nitrogen vapour at -196°C
melting	phase change from solid to liquid by heat [to above room temperature for agar]	The solid agar gel was melted and then transferred to Petri dishes at room temperature
thawing	of frozen things, becoming liquid upon warming [to above 0°C for water ice]	The cryo-preserved semen was thawed in a water batch at 37°C before insemination

See: [Condensation/evaporation/sublimation](#), [Dissolve/melt](#), [Liquefaction/solidification](#)

Frequency/rate/speed

frequency	noun	the rate a vibration the rate at which something occurs over a period in a population	1 hertz (Hz) is the frequency of one vibration per second The frequency of accidents (5 per year) is lower than last year The frequency of accidents this year is low (2 per 2000 students) His heart rate was 60 beats per minute The rate of apoptosis with treatment exceeded that in controls The rate of spermatogenesis varies among mammals
rate	noun	a measurement of frequency	

<i>speed</i>	verb	to assign a value according to a scale, to rank	Epididymal sperm transport rate depends on sperm production
	noun	the rate at which something happens	She rates his review of the literature higher than her own
	verb	to move quickly	The speed of the computer's processor reduced analysis time
		past participle speeded, sped	The student was speeding past us on her bike

See: [Degree/extent/rate](#), [Haste/speed](#), [Knot](#), [Immediately/promptly/quickly/soon](#), [Speed/velocity](#)

Frequently
often

From/of
from for an origin The testes were obtained **from** rats not mice
of as a description The rats were **of** different ages

From/to
from indicating the point that an action starts for distance I have just come **from** the culture room
time It is now two weeks **from** the election [an election in the past: two weeks ago]
to indicating the point that an action ends for distance I am now going **to** the laboratory
time It is now two weeks **to** the election [an election in the future: in two weeks]

See: [Away/away from](#)

From... to...

See: [Between... and... /from... to...](#)

From a functional point of view

Style: verbosity, can be shortened: replace by **functional/functionally**

From the fact(s)/on the ground

from the fact(s) involves an **admission** of a **truth**, undisputed knowledge
information **supported** by evidence
He concluded that capacitation had occurred **from the fact** that the cells were acrosome-reacted
[the cells were proven to be acrosome-reacted]
on the ground involves a **supposition**, a basis for belief
unsupported by evidence
He excused himself from the seminar **on the ground** that the room would not be air-conditioned
[there was a chance that the room would be air-conditioned]

See: [Fact/ground](#)

From the point of view of

Style: verbosity, can be shortened: replace by **for**

From the point of view of cost

Style: verbosity, can be shortened: replace by **cheaper/cheapest/more/most expensive**

From the standpoint of

Style: verbosity, can be shortened: replace by **according to** (authority, experience, instruction)/**from** (data)

See: [Perspective/point of view/standpoint/viewpoint](#)

From this aspect/respect

aspect from a particular part, feature or quality **From this aspect** their approach to the problem is novel
respect confusion with **in this respect**

See: [In this aspect/respect](#)

From hence

Pleonasm: as **hence** means **from** now, **from** is **superfluous**: use **hence**

See: [Hence/thence/whence](#)

From whence

Pleonasm: as **whence** means **from** what place, **from** is **superfluous**: use **whence**

See: [Hence/thence/whence](#)

From thence

Pleonasm: as **thence** means **from** that (a previously mentioned) place, **from** is **superfluous**: use **thence**

See: [Hence/thence/whence](#)

Frozen/frozen-thawed/thawed

frozen previously liquid samples cooled to become **solid** [to below 0°C for water]
frozen-thawed **emphasises** that samples have been both frozen and then thawed

thawed previously frozen samples warmed to become **liquid** [to above 0°C for water ice]

ALERT Check that the use of **frozen** makes sense

In other experiments oocytes were inseminated with **frozen** spermatozoa

ERROR *Semantics:* **frozen** spermatozoa are immotile and **cannot fertilise eggs**

CORRECT by

replacing frozen by thawed

In other experiments oocytes were inseminated with **thawed** spermatozoa

[**implies** that they had been frozen]

replacing frozen by frozen-thawed,

In other experiments oocytes were inseminated with **frozen-thawed** spermatozoa

[**emphasises** that they had been frozen]

replacing frozen by frozen and thawed

In other experiments oocytes were inseminated with **frozen and thawed** spermatozoa

[**emphasises** both the **freezing** and the **thawing**]

Fulfil/fulfil

fulfil to achieve something desired, promised or predicted

She will not **fulfil** her ambition to get into Harvard

past tense, past participle

fulfilled

present participle, gerund

fulfilling

Fulfilment/fulfillment

fulfilment the achievement of something desired, promised or predicted

Getting a first-class degree was **fulfilment** of his schooldays dream

fulfillment confusion with **American English**

Full/fully

full adjective for emphasis, reaching the maximum value

Switch over to **full** electrical stimulation

[**maximal** electrical stimulation]

fully adverb completely or entirely

Switch to **fully** electrical stimulation

[**only** electrical stimulation]

Full infinitive

See: [Infinitives](#)

Full stop

See: [Abbreviation/acronym/contraction/initialism](#), [Dot/full stop/period/point](#), [Full stop/colon/semicolon](#), [Punctuation](#), [Sentences](#)

Fun/funny

fun adjective (informal)

amusing, enjoyable

We had a **fun** day

noun (formal)

amusement, enjoyment

The research we are doing is **fun**

funny adjective (formal)

humorous, causing laughter or amusement

His lecture was **funny** in places

emphasising that something is wrong

Plagiarism is not **funny**

slightly deranged or eccentric

After his accident he has been a bit **funny**

Function/functional/functionality

function noun an action natural to or the purpose of a structure
as **noun adjunct**

The **function** of the sperm tail is to propel the spermatozoon forwards

A sperm **function test** [a **test of** sperm **function**]

functional adjective having a special activity, purpose or task

A **functional** test [a test that examines a particular activity]

in operation, working

The renovated lab. will be fully **functional** from next Monday

designed to be practical and useful

This is a small, **functional** incubator for sterile cabinet

functionality noun being well suited to serve a purpose, usefulness

Before its use in the clinic the **functionality** of a test must be proved

ALERT Check whether **function** should be the **intended word**

The transgenic animals displayed changes in sperm **functionality**

ERROR *Semantics:* the quality of being functional is determined by monitoring **function**

CORRECT by

replacing functionality by function

The transgenic animals displayed changes in sperm **function**

being more specific

The transgenic animals displayed changes in sperm **motility**

Functional sperm tests are today regarded as research tools

ERROR *Semantics:* tests that are **non-functional** would never be used in research

CORRECT [if a test **that examines function** is meant] by

replacing functional by function

Sperm **function** tests are today regarded as research tools

Furnish

to give, to provide

Further

adjective more distant in space than another
additional to what already exists

The culture room is at the **further** end of the building

She then gave a **further** piece of advice

A **further** six men were found to have testicular damage

[six men, **in addition to others**, had damage to the testis]

adverb to a greater degree or extent

Six men were **further** found to have testicular damage

[six men **had damage to other organs**, as well as to the testis]

To investigate A23187 action **further**, Ca²⁺ concentration of was altered

verb to develop, to extend, to promote

To further this career, he took a course in Bioinformatics

NOTE as both a **verb** and **adverb** there is a danger of splitting infinitives

See: [Also/in addition/on the other hand](#), [Farther/farthest/further/furthest](#), [Split infinitives](#)

ALERT Check that **infinitives are not split** by **further**

The current work was designed **to further investigate** the action of A23187 on the acrosome reaction
ERROR *Semantics:* ambiguous, discourteous, is the verb **to further** (meaning **to develop, to extend**) or a split infinitive (**to investigate**)?
 so **this could be interpreted as**

the current work had been investigated and was being investigated again [the **investigation** was **furthered**]

or

the investigation was new [something **additional** was done]

CORRECT [if the **former** is meant] by
not splitting the infinitive and **moving the adverb after the verb**

The current work was designed **to investigate further** the action of A23187 on the acrosome reaction

CORRECT [if the **latter** is meant] by
moving further to the **beginning** of the clause

Further, the current work was designed to investigate the action of A23187 on the acrosome reaction

replacing further by **furthermore** at the **beginning** of the clause

Furthermore, the current work was designed to investigate the action of A23187 on the acrosome reaction

ALERT Check that it is clear what **further** refers to

To **extend further** the analysis we examined hormone levels

ERROR *Semantics:* ambiguous, discourteous, is the verb **to extend** (meaning **to develop**) or a split infinitive (**to further**)?
 so **this could be interpreted as**

the analysis had already been extended and was being extended again [the **extended analysis** was **furthered**]

or

the extension of analysis was new [something **additional** was done]

CORRECT [if the **former** is meant] by
not splitting the infinitive and **moving further** after the **noun**

To extend the **analysis further** we examined hormone levels

CORRECT [if the **latter** is meant] by
moving further to the **beginning** of the clause

Further, to extend the analysis we examined hormone levels

replacing further by **furthermore** at the **beginning** of the clause

Furthermore, to extend the analysis we examined hormone levels

We **further** investigated the morphological integrity of the epithelium

ERROR *Semantics:* ambiguous, discourteous, are the investigations **being done again** or **are they new**?
 so **this could be interpreted as**

investigations had been done before and more were being done [further as a **verb**: the investigations were **furthered**]

or

the morphological investigations were new [further as an **adjective**: some **additional** investigations were done]

CORRECT [if the **former** is meant] by
moving further after the **verb**

We **investigated further** the morphological integrity of the epithelium

CORRECT [if the **latter** is meant] by
moving further to the **beginning** of the clause

Further, we investigated the morphological integrity of the epithelium

replacing further by **furthermore** at the **beginning** of the clause

Furthermore, we investigated the morphological integrity of the epithelium

FZD6 has been **further** proved to be a marker of a rare cancer

ERROR *Semantics:* ambiguous, discourteous, is the proof **being done again** or **are the observations new**?
 so **this could be interpreted as**

FZD6 has been proved **before** to be such a marker and this confirms it [further as an **adverb**: a previous proof was **repeated**]

or

The proof that FZD6 is a cancer marker is something **additional** [further as an **adjective**: something **additional** was done]

CORRECT [if the **former** is meant] by
replacing further proved by **confirmed**

FZD6 has been **confirmed** to be a marker of a rare cancer

CORRECT [if the **latter** is meant] by
moving further to the **beginning** of the clause

Further, FZD6 has been proved to be a marker of a rare cancer

replacing further by **furthermore** at the **beginning** of the clause

Furthermore, FZD6 has been proved to be a marker of a rare cancer

Future

noun a period of time following the current moment

I shall publish this work in the **future**

adjective at a later time, going or likely to happen or exist

Future publications will present the details of the method

NOTE *Overused word:* often used unnecessarily [omit]

Future-/future perfect-in-the-past tense

See: [Future tense of direct/indirect speech](#)

Gain/provide

gain to obtain or to secure something wanted He **gained** valuable expertise by use of the new microscope
provide to equip or to supply someone with something wanted We **provided** a new microscope for the morphology analysis

See: [Collect/obtain/provide/retrieve](#), [Obtained](#)

ALERT Check the **meaning** when **gain** is used

The data obtained here may **gain** further insight into the potential function of this histone modifier in male reproduction

ERROR Syntax: **data** are **insentient and cannot** gain anything

CORRECT [if **humans** gain insight from the information] by

replacing **gain** by **provide**

The data obtained here may **provide** further insight into the potential function of this histone modifier in male reproduction

inserting a **human subject**

From the data obtained here **we** may **gain** further insight into the potential function of this histone modifier in male reproduction

Gamete

a mature **haploid** male or female **germ cell**

able to unite with another of the opposite sex in sexual reproduction to form a **zygote**

See: [Gametogenesis](#)

Gametogenesis

	male		female
occurs in	testis		ovary
gonads	seminiferous tubules		Graafian follicles
structure			
gametogenesis	spermatogenesis		oogenesis
	ploidy (N: no. chromosomes)/copy number (C: DNA content)		
Primordial Germ Cells		(2N:46/2C)	
mature into	spermatogonia (Spg)	(2N:46/2C)	oogonia (Oog)
which undergo mitosis	spermatocytogenesis		oocytogenesis to form
gametocytes	spermatocytes (Spc)		oocytes (Ooc)
	primary Spc	(2x2N:2x46/4C)	primary Ooc [arrested until ovulation]
which undergo meiosis I			to form
	secondary Spc	(2x1N:2x23/2C)	secondary Ooc [arrested until sperm penetration]
			+ 1 st Polar Body
which undergo meiosis II	spermatidogenesis		ootidogenesis to form
gametids	spermatids (Spd)	(1N:23/1C)	ootids (Ood)
	round Spd		+ 2 nd Polar Body
which mature into	elongated Spd		
which undergo differentiation	spermiogenesis		to form
gametes	spermatozoa (Spz)	(1N:23/1C)	ova
which undergo fertilisation	male pronucleus	(1N:23/1C)	female pronucleus to form
zygotes		(2N:46/2C)	

See: [Spermato-/spermatocyto-/spermatido-/spermio-genesis](#)

Gas/vapour

gas the physical state of a substance that expands freely to fill the space available

above the boiling point of a liquid or sublimation point of a solid

vapour physical state of a **gas in equilibrium** with its liquid or solid states

just below the boiling or sublimation point of liquids or solids

See: [Condensation/evaporation/sublimation](#), [Mist/steam](#), [Temperature scales](#)

Gather together

Pleonasm: as **gather** implies bringing together, **together** is **superfluous**: use **gather**

Gender/sex

gender the state of being male or female
 refers to **cultural or social**, not biological, differences of either sex We do not discriminate against **transgender** applicants
 in grammar in certain languages (e.g. French, German, Latin) nouns can be masculine, feminine, common or neuter
 in German are distinguished by **inflexions** **Der Mann** (the man) is masculine
Die Frau (the woman) is feminine
Das Mädchen (the girl) is neuter

sex male or female
 refers to **biological** differences (the XX, XY chromosomes) of the sexes Haemophilia is a **sex-linked** disease

NOTE Transsexuals may be of one **sex** but of the other **gender**

Gene/protein symbol nomenclature

gene peroxisome proliferator-activated receptor γ
 for human, non-human primates, domestic species **all letters capitalised** italicised **no** Greek letter **PPARG**
 for rodents **first letter capitalised** italicised **no** Greek letter **Pparg**

protein peroxisome proliferator-activated receptor γ
for human, non-human primates, domestic species, rodents **all** letters capitalised **not** italicised Greek letter **PPAR γ**
[HUGO terminology for the sonic hedgehog gene]

See: [Lower/upper case](#)

Generally speaking

Style: verbosity, can be shortened: **avoid**

Generous/kind

<i>generous</i>	adjective	showing a readiness to give more than is strictly necessary showing kindness towards others larger or more plentiful than is usual or necessary	He was a generous benefactor to the University He gave a generous assessment of his work She provided a generous supply of culture inserts
<i>kind</i>	adjective noun	showing a friendly, generous and considerate nature a group of people/things with similar characteristics, kind character or nature	He was a very kind supervisor More data of this kind would be valuable The trials were different in kind from any that preceded them

See: [Kind/kinds of](#)

Genetics is/are

is **genetics** is a **plural** noun treated as **singular** **Genetics** *is* the study of heredity and the variation of inherited characteristics

Genetics of... is/are

is **genetics** is a **plural** noun treated as **singular**
genetics itself is the head noun The xeno-transplanted males are fertile but the **genetics** of their offspring *is* that of the donor

Genus/species

<i>genus</i>	a singular noun, plural genera the first letter of the genus is capitalised often contracted to the initial letter	Callithrix Homo Macaca C. H. M.
<i>species</i>	both a singular and plural noun is a subgroup of a genus species' Latin names are often italicised	Callithrix jacchus (marmoset monkey) C. jacchus Homo sapiens (human beings) H. sapiens Macaca mulatta (rhesus monkey) M. mulatta Macaca fascicularis (Java monkey) M. fascicularis

NOTE the **use of italicisation** is dictated by the journal style

See: [Alphabet](#), [Foreign words](#), [Species is/are](#)

Geometric/geometrical

related to geometry or according to its methods The main hall floor has **geometric** tile patterns
The fossil's form was a beautiful display of **geometrical** symmetry

Germane

See: [Apposite/appropriate/germane/pertinent/relevant](#)

Gerunds/nouns

<i>gerunds</i>	take a direct object with no preposition	Applying these rules enables gerunds to be distinguished from participles Using an infusion pump prevents tubule damage
<i>nouns</i>	take an indirect object need a preposition	Application of these rules enables gerunds to be distinguished from participles Use of an infusion pump prevents tubule damage

See: [By/by the use of/by using/using](#), [Gerunds](#)

Gerunds/participles

<i>gerunds</i>	emphasise an action not a person We appreciate Yechen's teaching the students [that she was teaching students was appreciated] She admired the student's posing by the poster [she admired the posing , not the student] He concealed my being in debt from my parents [that I was in debt was concealed] take a genitive He rejected the possibility of a theory's explaining osmolyte control of volume [the possibility of a specific theory (on an osmolyte role) is rejected] distinguished from a participle by any of three tests: if inserting the and of either side of the -ing verb does not alter the grammar, meaning or sense Developing cancers is dangerous The developing of cancers is dangerous [meaning unchanged: gerund] if omitting the -ing word alters the grammar, meaning or sense Developing cancers is dangerous Cancers is dangerous [ungrammatical: gerund] if making what governed the -ing word the subject alters the meaning I was surprised by her wearing shorts She surprised me wearing shorts (she wears shorts) (I wear shorts) [meaning changed: gerund]
<i>participles</i>	emphasise a person not an action We saw Yechen teaching the students [we saw her , while she was teaching the students]

He admired the student posing by the poster	[he admired the student , not the posing]]
He concealed me being in dept from my parents	[I was hidden, while I was in debt]
defines a noun	
He rejected the possibility of a theory explaining osmolyte control of volume	[the possibility of any theory is rejected]
distinguished from a participle by any of three tests:	
if inserting the and of either side of the -ing verb	
alters the grammar, meaning or sense	
Developing cancers are dangerous	The developing of cancers are dangerous [ungrammatical: participle]
We saw Jen cycling up the hill	We saw Jen the cycling of up the hill [ungrammatical: participle]
if omitting the -ing word or phrase	
does not alter the grammar, meaning or sense	
Developing cancers are dangerous	Cancers are dangerous [meaning unchanged: participle]
We passed Jen cycling up the hill	We passed Jen [meaning unchanged: participle]
if making what governed the -ing word the subject	
does not alter the meaning	
I saw her wearing a lab. coat	She was seen wearing a lab. coat
(she wears a lab. coat)	(she wears a lab. coat) [meaning unchanged: participle]

See: [Fused participles](#), [Gerunds](#), [Participles](#)

Get

to come to have, to obtain, to receive, to retrieve I should **get** the first batch of reagent tomorrow
Yesterday I **got** the first batch of reagent

NOTE Overused word: often used unnecessarily [**omit**]

See: [Have got](#), [Light/phrasal verbs](#)

ALERT Check that **get** is used correctly

The stock solution of 10 mM progesterone was diluted with medium to **get** a final concentration of 10 pM
STYLE Word usage: **layman** terminology
CHANGE by **replacing get** by **obtain**
The stock solution of 10 mM progesterone was diluted with medium to **achieve** a final concentration of 10 pM

Give

See: [Feed/give a diet](#)

Give rise to

Style: verbosity, can be shortened: replace by **activate/cause/induce/initiate**

Given

past participle of the verb to give She was **given** the Setchell Medal at the last society meeting
part of an absolute verbal construction used as a **subordinate clause** **Given** the lack of 22-gauge needles he had to use 25-gauge needles
[*it being the case that there was* a lack of...]
[*provided with the situation of a* lack of...]

ALERT Check that the **given** introduces the main clause satisfactorily

Given that a single FNA sample was more informative than a testicular biopsy, **this** led the way for the development of a procedure for sperm detection in azoospermic men
ERROR Syntax: ambiguous, **it is unclear** what **this** refers to: the antecedent **testicular biopsy** or the entire **subordinate clause**
CORRECT [if the **subordinate clause** is meant] by
omitting this led the way for and **providing** a new **verb**
Given that a single FNA sample was more informative than a testicular biopsy, the development of a procedure for sperm detection in azoospermic men **became** possible
replacing this led the way for the development of by **it was possible to develop**
Given that a single FNA sample was more informative than a testicular biopsy, **it was possible to develop** a procedure for sperm detection in azoospermic men
replacing given by **the fact**, and **this led the way for** by **prompted**
The fact that a single FNA sample was more informative than a testicular biopsy **prompted** the development of a procedure for sperm detection in azoospermic men

Given the fact that

Style: verbosity, can be shortened: replace by **as/since**

Global/inter-/multi-/supra-/trans-national

global	of being everywhere in the world, on every continent	The United Nations is a global organization
international	of having status between sovereign nations	The MH 370 search is an example of international cooperation
multinational	of an entity operating within several nations	Doctors Without Borders is a multinational charity
supranational	of an institution to which several nations delegate some sovereignty	The European Union is a supranational entity
transnational	of a process transiting international borders	Transnational shipment is essential

Glycocalyx/glycocalyx

glycocalyx The **glycocalyx**, or pericellular matrix, is a glycoprotein and glycolipid covering surrounding the cell membranes of epithelia

Go

to move there

See: [Light/phrasal verbs](#)

Go/going

go	base infinitive	I saw him go into the laboratory [I have visual evidence that he entered the laboratory] (answers the specific question whether or not he went into the laboratory)
going	present participle	I saw him going into the laboratory [I saw him, and at the time he was going into the laboratory] (answers the general question whether he was around at all)

See: [Gerunds/participles](#)

Goes under the name of

Style: verbosity, can be shortened: replace by **is called**

Going

non-finite forms of the verb to go (to leave, to depart)
a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Fused participles](#), [Gerunds/participles](#)

ALERT Check whether **going** is used as a **gerund** or a **participle**

The director did not approve of me **going** to the meeting
ERROR *Semantics:* fused participle, the **objective** case implies that the director **did not approve of me**
CORRECT [if **my attendance** at the meeting was not approved of] by
 using the **genitive** and a **gerund**
 The director did not approve of **my going** to the meeting

Going forward

Style: vogue words, unjustifiable neologism, replace by **from now on/henceforth/in the future**

See: [Neologisms](#)

ALERT Check that **going forward** cannot be misinterpreted

Going forward, the institute will focus on epididymal function
ERROR *Semantics:* **going forward** is a participial phrase (verbal adjective) and **the institute** is the nearest noun it can complement
so this implies that the **institute is leaving**
CORRECT [if **future actions** of the institute are meant] by
 replacing **going forward** by **from now on, henceforth or in the future**
From now on/Henceforth/In the future, the institute will focus on epididymal function

Gonado-trophin/tropin

gonadotrophin	Ovulation was induced by pregnant mare serum gonadotrophin
gonadotropin	confusion with American English

Good

See: [Better/good/well](#)

Gossip about/with

about	something	She was gossiping about the recent fee increase
with	someone	He was gossiping with the technicians

Governing body is/are

is	when the governing body itself is the subject	The governing body is making its decision
are	when what the governing body consists of (a plural group) is the subject	The governing body are taking their seats in the conference hall

G-protein coupled/G protein-coupled

G protein-coupled the protein's name is **G protein** This protein is **G protein-coupled** to downstream cellular machinery

Gradually/slowly

gradually	in a gradual way, slowly, by degrees	
	refers both to distance	The staining gradually diminished away from the blood vessels
	time	The substrate gradually dissolves when warmed
slowly	at slow speed, not quickly	
	refers only to time	The substrate slowly dissolves when warmed

ALERT Check that **slowly** refers only to time

High AR expression was detected in the mitochondria whereas expression **slowly** declined in the flagellum and end piece
ERROR *Syntax:* **slowly** refers to time but no time is given

CORRECT by replacing **slowly** by **gradually** and indicating a **direction**

High AR expression was detected in the mitochondria whereas expression **gradually** declined **towards** the flagellum and end piece

Granuloma/granulomas/granulomata

granuloma singular noun a mass or nodule of chronically inflamed tissue with granulations
After vasectomy there was no large sperm **granuloma** at the site of the ligation

granulomas plural of granuloma, granulomata
After vasectomy there were a few large sperm **granulomas** close to the site of the ligation

granulomata plural of granuloma, granulomas
After vasectomy there were several small sperm **granulomata** some distance from the site of the ligation

Graphic/graphical

graphic adjective relating to visual art
clear and vividly explicit
of, relating to, in the form of a graph, graphical
Graphic work includes charts and diagrams
She described the surgery in **graphic** detail
This plot option generates the frequency distribution in **graphic** form

graphical noun a graphical item, illustration, image, picture
This programme converts a coloured **graphic** into black-and-white
Flow charts are **graphical** presentations

Grateful/thankful/thankfully

grateful adjective showing appreciation for something received or done We are **grateful** for your help in tutoring the students
[**only people** can **be grateful**]

thankful adjective pleased and relieved They are **thankful** that they passed the exams
[**only people** can **be thankful**]

thankfully adverb in a thankful manner The lecturer **joined** the department **thankfully**
[**thankful** that he got the job]

does not mean hopefully, it is to be thanked that

ALERT Check that **thankfully** is only used for people

Thankfully, my third application was successful

ERROR *Semantics*: this means that **the application** is thankful

CORRECT by

inserting a **human element**

Thankfully, I was successful at my third application

replacing **thankfully, my** by **I am thankful that**

I am thankful that my third application was successful

replacing **thankfully. my** by a **more relevant adjective** and **that**

I am glad/happy/pleased/relieved that my third application was successful

Gratis (Latin)

free, without charge The A4 mini-posters were available **gratis**

See: [For free/nothing](#), [Free/freely/nothing](#)

Great/greater

great the **absolute** (positive) form of the adjective
used with **comparative prepositional phrases** The values were **great compared with** those of the control
The values were **great in comparison with** those of the controls

greater the **comparative** form of the adjective
used with the conjunction **than** The values were **greater than** those of the control

ALERT Check that the greater *is not* used with phrases implying comparison

The values were **greater compared with/in comparison with** those of the controls

ERROR *Tautology*: as **greater** is a **comparative** adjective, and the prepositional phrases **imply a comparison**, one term is **superfluous**

CORRECT by using **one or the other**, not both, by

replacing **compared with/in comparison with** by **than**

The values were **greater than** those of the control

replacing **greater** by **great**

The values were **great compared with/in comparison with** those of the control

Great deal of

Style: verbosity, can be shortened: replace by **much**

Great deal of... is/are

is **great deal of** is used for **mass nouns** A **great deal of money is** spent on journals
A **great deal of time has been** spent filling out these forms

Great number of

Style: verbosity, can be shortened: replace by **many**

Greater/less than

See: [Mathematical comparators/operators](#)

Greater/less than or equal to

See: [Mathematical comparators/operators](#)

Greater number of

Style: verbosity, can be shortened: replace by **more**

Greek letters

See: [Alphabet](#), [Beta/Eszett](#), [Chi-square/-squared](#)

Greek/Latin numerical prefixes

	1	2	3	4	5	6	7	8	9	10
Greek	mono	di/dy	tri	tetra	penta	hexa	hepta	octa	ennea	deca
Latin	uni	bi/duo	tri/tert	quad/quart	quinta	sexta	septa	octa	nona	deci
	11	12	13	14	15	16	17	18	19	20
Greek	undeca	dodeca	trideca	tetradeca	pendeca	hexadeca	heptadeca	octodeca	enneadeca	icosa
Latin	undeci	dudodeci	trideci	quatuordec	quindec	hexadeci	septendeci	decennocta	decennova	vice
	30	40	50	60	70	80	90	100	1000	many
Greek	tricon	tetracon	pentacon	hexacon	heptacon	octacon	enneacnota	hecto	chilia	poly
Latin	trigesi	quadragesi	quingagesi	sexage	septuages	octages	nonages	centesi	millesi	multi

See: [Prefix list](#)

Greek/Latin plural and singular words

Greek	words ending in -a are	neuter plural with singular -on	criteria criterion	phenomena phenomenon
Latin	words ending in -a are	neuter plural with singular -um feminine singular with plural -ae	data datum cauda caudae	media medium zona zoniae
				strata stratum

Grievous/grievous

grievous (of something bad) very severe or serious His premature death was a **grievous** blow to our research field

Grind/ground

<i>grind</i>	as verb	to reduce something to small particle or powder by crushing it past tense and past participle ground	Grind the frozen tissue into a fine powder The tissues were ground in a pestle and mortar
<i>ground</i>	as verb	to restrict the movement of a vessel (ship or plane) past tense and past participle grounded	If the weather gets worse they will ground all flights By 10.00 all flights had been grounded

Gross/net

<i>gross</i>	of an amount: total, without deduction of contributions of a weight: including that of the packaging	The gross cost of the microscope will be €400 The gross weight of the shipment is 4 kg
<i>net (nett)</i>	overall, remaining after all factors have been accounted for of an amount: remaining after the deduction of contributions of a weight: excluding that of the packaging	The net result is the same The microscope will cost, net of VAT, €300 The net weight of the microscope is 2 kg

Ground/grounded

<i>ground</i>	past tense and past participle of the verb to grind	The samples were ground to a fine powder
<i>grounded</i>	past tense and past participle of the verb to ground	The planes were grounded all day

See: [Fact/ground](#), [Grind/ground](#)

Guanylate/guanylyl cyclase

guanylyl cyclase the **guanylyl** (**not guanylate**) functional group is cyclised

Guidelines

See: [Criteria/criterion/guidelines](#)

h/hr/hs

h abbreviation of **hour/hours**

See: [Abbreviations of multipliers and units](#)

Had/has been

<i>had been</i>	past perfect (pluperfect) tense for an action completed at some stated time or event often used with by when until	By 2009 I had been doing research for 39 years I had been studying the epididymis for 39 years when I retired I had been engaged in testicular research until I moved to Vanderbilt
<i>has been</i>	present perfect tense for an action continuing at the present time often used with since	It has been done this way for years I have been doing epididymal research since 1974

See: [Ago/by/since](#), [Since/until](#)

Half/half of

<i>half</i>	Half the class came late for the exams
<i>half of</i>	Half of the class came late for the exams

Style: **of** is *unnecessary*, **half** alone is *sufficient*

Half is/are

is when what **half refers to** is **singular**
for parts of a **single object**
for a group of count objects considered as **one unit**
are when what **half refers to** is **plural**
for a group of count objects considered **together (many)**

Of the medium **half is** used up
From these magnetic stirrers **half is** enough for the practical class

Of the flasks of medium **half are** used
Of the motile the spermatozoa **half were** acrosome-reacted

Half of... is/are

is when what **half** itself is the head noun
for a group of count objects considered as **one unit**
are when what **half of refers to** (a **plural** group) is the head noun
for a group of count objects considered **together (many)**

Half of this box **is** painted blue [of this box **half is** painted blue]
Half of these stirrers **is** enough [of these stirrers **half is** enough]
Half of this population **is** infertile [of this population **half is** infertile]

Half of the spermatozoa **were** acrosome-reacted

Halo/halos

haloes the plural of halo Sperm chromatin structure can be studied by examining the formation of sperm head **haloes**
All the figures in the picture except one had **halos** around their heads

Hamper

to hinder or impede movement or progress Viscous media **hamper** the progress of spermatozoa

Hanged/hung

hanged executed for people The murderer was **hanged** by the neck until dead
[**only people** can **be hanged**]
hung displayed for insentient objects The poster was **hung** on the poster-board

Hanging gerunds/infinitives/participles

See: [Position of modifiers](#)

Happen

to occur, to take place

Hardly

only just, almost not, scarcely I have **hardly** enough antibiotics for the experimental group
for emphasis with **subject-verb** inversion **Hardly had I** set up the cultures when the fire alarm rang

See: [Double negatives/litotes](#), [Inversion of verbs and subjects](#), [Scarcely/scarcity](#)

ALERT Check that **hardly is not** used with a **negative**

There **wasn't hardly** any reaction upon addition of A23187

ERROR Syntax: as **hardly** is a **negative**, it **needs no** negative verb (**wasn't**) before it

CORRECT [if there was **no reaction**] by

replacing **wasn't** by **was**

There **was hardly** any reaction upon addition of A23187

omitting hardly

There **wasn't** any reaction upon addition of A23187

Harvard comma

See: [Serial commas](#)

Hardly ever

for emphasis with **subject-verb** inversion **Hardly ever have I** observed these cells dividing

See: [Inversion of verbs and subjects](#)

Hardly... when/than

when **Hardly had I** got the lab. **when** I received an email message

Hardly... when

for emphasis with **subject-verb** inversion **Hardly had I** woken up **when** I received a phone call

See: [Inversion of verbs and subjects](#)

ALERT Check that **hardly** is used with the **correct conjunction**

Hardly had I sent off the manuscript to Andrologia **than** I was invited to write a review for the Asian Journal of Andrology

ERROR Syntax: **hardly** is followed by the conjunction **when**

CORRECT by

replacing **than** by **when**

Hardly had I sent off the manuscript to Andrologia **when** I was invited to write a review for the Asian Journal of Andrology

replacing **hardly** by **no sooner**

No sooner had I sent off the manuscript to Andrologia **than** I was invited to write a review for the Asian Journal of Andrology

Harass/harrass

harass to subject to aggressive pressure or intimidation

Has a remarkable degree of...

Style: verbosity, can be shortened: replace by **is remarkably...**

Has been/is/was

has been **present perfect** tense of the verb to be

for an action **done** in the past but **still relevant** at the present time (**accepted wisdom**)

used for statements of accepted fact

The guinea pig acrosome reaction **has been shown** to be stimulated by the ionophore A23187 (Green 1976)

Spermatozoa **have long been known** to undergo maturation in the epididymis (Orgebin-Crist 1967)

It **has been shown** that vortexing removes sperm membranes (Jones 1986)

is **simple present** tense of the verb to be

for an action **done many times** with the same results (**accepted wisdom**)

used for statements of accepted fact

The guinea pig acrosome reaction **is** stimulated by the ionophore A23187 (Green 1976)

Spermatozoa **undergo** maturation in the epididymis (Orgebin-Crist 1967)

Vortexing **removes** sperm membranes (Jones 1986)

was **simple past** tense of the verb to be

for an action **done once** in the past and **completed**

used to describe what was done

A23187 **was** added to the sperm suspension

used to describe the results obtained

Spermatozoa **were** acrosome-reacted after treatment with ionophore

used to emphasise **one point in time**

Green **showed** that the guinea pig acrosome reaction **was** stimulated by A23187 **in 1976**

That spermatozoa undergo maturation in the epididymis **was shown** by Orgebin-Crist **in 1967**

In 1986 Jones **explained** how vortexing could remove sperm membranes

See: [Tenses of the declarative and conditional moods](#)

Has been shown to

Style: verbosity, can be shortened: replace by **is**

Has the ability to cope with

Style: verbosity, can be shortened: replace by **can cope with**

Has the capability of

Style: verbosity, can be shortened: replace by **can**

Has been

See: [Had/has been](#)

Haste/speed

haste excessive speed or urgency of movement or action, a hurry

My flight has been called so I write in **haste**

speed the rate at which things moves or are able to move

The stimulated spermatozoa are swimming at high **speed**

NOTE more haste, less speed You make better progress with a task if you don't try to do it too quickly

Have

a **lexical verb** with an **object**

for **all** persons, singular/plural to possess, own or hold

to suffer from

to hold in the mind

I now **have** the first **batch** of reagent

I **have** a **headache**

I **have** the **impression** that she won't attend

a **non-modal auxiliary verb**

for **all** persons, singular/plural forms negatives with **not**

forms **perfect** tenses with **past participles**

future

present

past

I **have not written** it yet

By then this work **will have been published**

It **has been shown** that A23187 stimulates the acrosome reaction

I **had been studying** Ca²⁺ stimulation of flagella until I left

See: [Auxiliary verbs](#), [Auxiliary/lexical verbs](#), [Have/must](#), [Light/phrasal verbs](#), [Modal/non-modal/quasi-modal verbs](#), [Tenses of the declarative and conditional moods](#)

ALERT Check when **have** is used as an auxiliary verb that only **one perfect tense** is used

I should **have** liked to **have** seen it

ERROR *Tautology*: as the **action** is in the **past**, there is **no need** to repeat the **notion of the past**

using the **present tense** of the **infinitive**

I should have liked **to see** it

using the **present tense** of the **auxiliary verb**

I **should like** to have seen it

I **had** planned to **have** finished it yesterday
 ERROR *Tautology*: as the **verb** is in the **past**, there is **no need** to repeat the **notion of the past** by putting the **infinitive** in the **past**
 CORRECT by using the **perfect tense** of the **auxiliary verb**
 I **had planned** to finish it yesterday [implies that my plans changed so I did not finish it]
 using the **perfect tense** of the **infinitive**
 I planned **to have finished** it yesterday [implies that my plans remained but I did not manage to finish it]

Have got

to suffer from I **have got** a headache
 to hold in the mind I **have got** the impression that she won't attend

Style: **got** is **unnecessary**, **have** alone is **sufficient**

Have/must

have	as non-modal auxiliary verb followed by a full infinitive	for obligation/necessity	in the present or future in the future in the past in the present or future	My doctor says I have to give up drinking wine My doctor says I shall have to give up smoking She had to stop smoking as could not speak He has to be the best orator at the meeting
must	a modal auxiliary verb followed by a base infinitive a participle	for obligation/necessity for certainty	in the present or future in the present or future in the past	The doctor says I must give up smoking He must be the best orator at the meeting He must have been late, as he missed the train

See: [Must/ought/should](#)

Having

non-finite forms of the verb to have
 a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Gerunds/participles](#), [Position of modifiers](#)

ALERT Check that the **participle** has a **relevant noun** to complement

Having reached the campus, the view was splendid
 ERROR *Semantics*: **having reached** is a participle (verbal adjective) and **the view** is the closest noun it can complement
so this implies that **the view** reached the campus
 CORRECT [if the **viewer** reached the campus] by
 introducing a **human element**
 Having reached the campus, **we** had a splendid view

Having done that/that done

having done that	a participial phrase followed by the subject and verb in the active voice [only people can deliberately do things]	after completing that action	introducing what follows what was done	Having done that , I know how difficult this cannulation is
that done	a prepositional phrase followed by the subject and verb in the active voice object and verb in the passive voice	that [having been] done	introducing what follows what was done	That done , I started to cannulate the epididymal tubule That done , the epididymal tubule was cannulated

ALERT Check that **having done that** has a **relevant noun or pronoun** to complement

Having done that, the efferent ducts were cannulated
 ERROR *Semantics*: **having said that** is participial phrase and the **efferent ducts** are the nearest noun it can complement
so this implies that the **efferent ducts** did something
 CORRECT [if the **speaker** had done something] by
 replacing **having done that** by **that done**
That done, the efferent ducts were cannulated
 introducing a **subject** and **replacing** the **passive** by the **active voice**
Having done that, I **cannulated** the efferent ducts

Having put that aside/that aside

having put that aside	a participial phrase introducing what follows ignoring the argument followed by the subject and verb in the active voice [only people can say things]	after putting some argument aside	That being put aside , I still find the thesis unacceptable
that aside	a prepositional phrase introducing what follows ignoring the argument followed by the subject and verb in the active voice object and verb in the passive voice	that [having been put] aside	That aside , such a view is inconsistent with the facts That aside , the view was found to be unacceptable

Having regard to

Style: verbosity, can be shortened: replace by **about**

Having said that/that said

having said that a participial phrase after making that statement

	introducing what follows what was said			
	followed by the subject and verb in the	active voice	Having said that, I must admit	that I find the thesis acceptable
	[only people can say things]			
<i>that said</i>	a prepositional phrase	that [having been] said		
	introducing what follows what was said			
	followed by the subject and verb in the	active voice	That said, I must admit	that I find the thesis acceptable
	object and verb in the	passive voice	That said, the thesis was found to be	acceptable

ALERT Check that **having said that** has a **relevant noun** to complement

Having said that, the hypothesis remains unproven

ERROR *Semantics*: **having said that** is participial phrase and **hypothesis** is the nearest noun it can complement
so this implies that the **hypothesis** said something

CORRECT [if the **speaker** had said something] by

replacing **having said that** by **that said** or **despite that**

That said/despite that, the hypothesis remains unproven

introducing a **subject and verb**

Having said that, I have to admit that the hypothesis remains unproven

He/him

<i>he</i>	personal pronoun	nominative case		
	as subject	where he would be used on its own		He is attending the seminar
		he is used together with plural subjects		My colleagues and he are attending the seminar
		because he is nominative		She trained him better than he
		can only mean		She trained him better than he [trained him]
	in complements	used with linking verbs		It was he who wrote that article
<i>him</i>	personal pronoun	objective case		
	as object	where him would be used on its own		The award was given to him
		him is used together with plural objects		The award was given to my colleagues and him
		because him is objective		She trained him better than him
		can only mean		She trained him better than [she trained] him
	after a preposition			All things come to him who waits

See: [I/me](#), [Person of verbs](#), [Sentences](#), [Than](#), [Them/they](#), [Us/we](#)

'He/she'

difficult to pronounce, shorthand, ugly, unnecessary

Ambiguous: as the slash could imply **or** or **and**

replace by **he or she/he and she**

Discourteous: requires the reader to make a decision even the author is unable or unwilling to make
if it is **unknown** whether the subject is female or male use **they**

See: ['Her/his'](#), [Indefinite third person pronouns](#)

Head/headless

<i>head</i>	grammar: the more important determiner of the meaning of a			
	word	a morpheme	blackbird	
	phrase	a word	The man in the grey shirt	
<i>headless</i>	grammar: grammatical structures lacking a head			
	compound words			
	referring to someone by what he has/does	not	what he is	
	lacking a reference person	a low-life	a ne'er-do-well	a flatfoot
	noun phrases (nominal adjectives)			four-eyes
	referring to a group of people sharing a certain characteristic			
	lacking a head noun	the blind	the few	the infertile
				the proud

See: [Head nouns](#)

Headquarters is/are

headquarters is considered a **singular and plural** noun The **headquarters** of the company **is** in London
The **headquarters** of the company **are** in London

See: [Singular/plural nouns](#)

Healthily/healthy

<i>healthily</i>	adverb	in a manner that promotes or indicates good health	of people	He was ill but was eating healthily
<i>healthy</i>	adjective	in good physical or mental condition, in good health, not diseased	of people	He was young and healthy
		promoting good health	of food	He was ill and eating healthy food

ALERT Check that **healthy** is not used as an adverb

Eating **healthy** means staying **healthy**

ERROR *Syntax*: an adjective can define a **gerund** (staying) but not a **participle** (eating)

CORRECT by

replacing **healthy** by **healthily**

Eating **healthily** means staying healthy

providing a *noun* for **healthy** to define

Eating **healthy food** means staying healthy

inverting **healthy** and **eating** so **healthy** describes a *gerund* (eating)

Healthy eating means staying **healthy**

Heat

See: [Cold/heat/hot/temperature](#)

Heavy/weight

heavy	adjective	of great weight	The microscope is heavy
weight	abstract noun	the quality of being heavy or light	The weight of the microscope is great
	concrete noun	an object of known weight used to calibrate scales	Place the weights on the left pan and the object on the right

NOTE **Heavy** objects have a *large* weight; **light** objects have a *small* weight

ALERT Check that both **weight** and **heavy** are not used in the same sentence

In the first subgroup, testicular **weights** were **heavier** than those in the controls

ERROR *Semantics*: only **objects** can be **heavy** or **light** (as measured by their **weight**)

CORRECT by

replacing **heavier** by **greater**

In the first subgroup, testicular **weights** were **greater** than those in the controls

replacing **testicular weights** by **testes**

In the first subgroup, **testes** were **heavier** than those in the controls

Heavy weight

Pleonasm: as **heavy** means of great **weight**, use **heavy** or **great weight**

Hectare

See: [Acre/hectare](#)

Height

See: [Depth/height/length/width](#)

Help

noun	the action of helping someone	I gave him some help with the centrifuge
	the fact of being useful	These translated instructions aren't much help
	a person or thing that helps	The technician was a great help in setting up the lab.
verb	to make it easier for something to be done	I helped him change the microscope lens

Help/helps

help	help is a mass noun , which has no plural the plural form takes a <i>partitive</i> construction	His help with the anaesthesia was greatly needed
helps	3 rd person singular of the verb to help	Many <i>offers of help</i> were received following the fire The technician helps the student with the cannulation

Hemi-

See: [Prefix list](#)

Hence/thence/whence

hence	from here	as a result or consequence, for that reason in the future, from now	The sperm motility was low, hence infertility was anticipated There may be a different opinion two years hence
thence	from there	(formal) from a place or source previously mentioned	I intend to travel first to Shanghai and thence to Hong Kong
whence	from where	(formal) from what place or source	After the meeting, the projector was returned whence it came

See: [And so/hence/therefore, Plain English](#)

ALERT Check that **hence** *is not* used with words *implying a logical connection*

From thousands of spermatozoa, only one will fertilise the oocyte; **hence it follows** there is stringent sperm selection

ERROR *Tautology*: as both **hence** and **it follows** refer to causal events, one term is *superfluous*

CORRECT by using *one or the other*, not both, by

omitting *it follows*

From thousands of spermatozoa, only one will fertilise the oocyte; **hence** there must be stringent sperm selection

omitting *hence*

From thousands of spermatozoa, only one will fertilise the oocyte; **it follows** there must be stringent sperm selection

ALERT Check the grammar when **whence** is used

After the surgery the monkeys were returned **from whence** they came

ERROR *Tautology*: as **whence** means **from where**, **from** is *superfluous*

CORRECT by

omitting **from**

After the surgery the monkeys were returned **whence** they came

replacing **whence** by **from where**

After the surgery the monkeys were returned **from where** they came

Henceforth
from now on

'Her/his'

difficult to pronounce, shorthand, ugly, unnecessary

Ambiguous: as the slash could imply **or** or **and**

replace by **his** or **her/his** and **her**

Discourteous: requires the reader to make a decision even the author is unable or unwilling to make if it is **unknown** whether the subject is female or male use **their**

See: ['He/she', Her/his/its/their, Indefinite third person pronouns](#)

Her/herself

<i>her</i>	3 rd person singular objective (object) case	They gave the prize to her
	possessive personal pronoun	She looked forward to finding out her exam results
<i>herself</i>	reflexive form of personal pronoun	Each student congratulated herself

See: [Herself/himself/themselves, Intensive/reflexive genitive pronouns](#)

Her/his/its/their

possessive personal pronouns

singular	where the sex of the person is male	use his	The [male] student looked forward to finding out exam his results
	where the sex of the person is female	use her	The [female] student looked forward to finding out her results
	where the sex of the person is unknown or unclear	use its	Tell the child to blow its nose
		use their	Someone was heard blowing their nose
plural	for both sexes, or either or unknown sex	use their	All the students looked forward to finding out their exam results

See: [Indefinite third person pronouns](#)

Her/she

<i>her</i>	personal pronoun	objective case	
	as object	where her would be used on its own	The award was given to her
		her is used together with plural objects	The award was given to my colleagues and her
		because her is objective	She trained him better than her
		can only mean	She trained him better than [she trained] her
		after a preposition	They came to her after the seminar
<i>she</i>	personal pronoun	nominative case	
	as subject	where she would be used on its own	She is attending the seminar
		she is used together with plural subjects	My colleagues and she are attending the seminar
		because she is nominative	She trained him better than she
		can only mean	She trained him better than she [trained him]
	in complements	used with linking verbs	It was she who wrote that article

See: [He/him, I/me, Sentences, Than, Us/we](#)

Herein/therein

<i>herein</i>	in this document	The manufacturer does not accept responsibility for any information contained herein
<i>therein</i>	in that document	It is recognised that prolonged heating leads to testicular damage (Job <i>et al.</i> , 2000 and references therein)

Hereto/thereto

<i>hereto</i>	to this matter, document or place	Hereto is appended an estimate of the cost
<i>thereto</i>	to that matter, document or place	The students assent thereto

See: [Plain English](#)

Heretofore/theretofore

<i>heretofore</i>	(formal) until this time, until now , hitherto, previously	I am now retired; heretofore I was a scientist
<i>theretofore</i>	(formal) until that time, until then , thitherto, previously	In 1985 I moved to Germany; theretofore I had lived in England

See: [Plain English](#)

Heterographs

See: [Hetero-/homo-/graphs/-nyms/-phones](#)

Heteronyms

See: [Hetero-/homo-/graphs/-nyms/-phones](#)

Heterophones

See: [Hetero-/homo-/graphs/-nyms/-phones](#)

Herewith

with this letter For your convenience the required form is enclosed **herewith**

Hero/heroes/heroin/heroine

<i>hero</i>	a person (male or female) admired for his or her courage, outstanding achievements or noble qualities
<i>heroes</i>	the plural of hero

heroin an opioid drug made from morphine
heroine a woman admired for her courage, outstanding achievements or noble qualities

Hers/her's
hers a substantive possessive pronoun The instruments are **hers**

Herself/himself/themselves

reflexive forms of personal pronouns

used by a speaker or speakers to refer to himself, herself or themselves as object(s) of a verb or preposition

singular	where the person is male	use himself	He congratulated himself
	where the person is female	use herself	Each [male] student congratulated himself She congratulated herself
	where the sex of the person is unknown or unclear	use themselves	Each [female] student congratulated herself Each student congratulated themselves
plural	for both sexes or either or unknown sex	use themselves	All students congratulated themselves He painted it himself She wrote the manuscript herself They drafted the grant application themselves
	personally, for emphasis		

See: [Intensive/reflexive genitive pronouns](#)

ALERT Check that **themselves** is not used as a subject

Who claims that **themselves** write perfect English?

ERROR *Syntax*: **themselves** is an **objective** reflexive pronoun used as a subject

CORRECT by

replacing **themselves** by **they**

Who claims that **they** write perfect English?

inserting **they**

Who claims that **they themselves** write perfect English?

Who claims that **they** write perfect English **themselves**?

ALERT Check whether the use of **himself** can clarify the meaning

After reading his **student's** work, the **professor** said that **he** had not had enough time to finish it

ERROR *Semantics*: ambiguous, **it is unclear** whether **he** refers to, the **professor** or the **student**
 so **this could be interpreted as**

the **professor** had not had enough time to finish reading it

or

the **student** had not had enough time to finish writing it

CORRECT [if the **former** is meant] by

inserting a **reflexive pronoun**

After reading his student's work, the professor said that **he himself** had not had enough time to finish it

CORRECT [if the **latter** is meant] by

replacing **his student's** by **the** and **he** by **his student**

After reading **the** work, the professor said that **his student** had not had enough time to finish it

See: [Pronouns](#)

Heterogeneous/heterogenic/heterogenous

heterogeneous expressing heterogeneity

High/higher

high the **absolute** (positive) form of the adjective
 used with **comparative prepositional phrases**

The value are **high compared with** those of the controls

higher the **comparative** form of the adjective
 used with the conjunction **than**

The values are **higher than** those of the controls

See: [Higher/lower](#)

ALERT Check that the **comparative is not** used with phrases **implying comparison**

The values were **higher compared with/in comparison with** those of the control

ERROR *Tautology*: as **higher** is a **comparative** adjective, and the prepositional phrases **imply a comparison**, one term is **superfluous**

CORRECT by using **one or the other**, not both, by

replacing **compared with/in comparison with** by **than**

The values were **higher than** those of the control

replacing **higher** by **high**

The values were **high compared with/in comparison with** those of the control

High ionic strength/hypertonic

high ionic strength of a fluid with **higher than normal** ionic strength

normal usually refers to blood plasma

the major components are

electrolytes

at **high** concentration

provide **high** osmolality

are likely hypertonic

hypertonic of a fluid with higher than normal **tonicity** (in which a cell shrinks)

normal usually refers to blood plasma

the major components can be

electrolytes	at high concentration	provide high osmolality	provide high ionic strength
non-electrolytes	at high concentration	provide high osmolality	provide low ionic strength

See: [Hyper-osmotic/-tonic](#), [Hypotonic/low ionic strength](#), [Ionic strength](#)

High-speed/time-lapse photography

high-speed	when the frequency at which film frames are captured (the frame rate) is higher than that used to view the sequence	when played at a normal (slower) speed	events appear to be moving slower
		can make very fast processes observable	
time-lapse	when the frequency at which film frames are captured (the frame rate) is lower than that used to view the sequence	when played at a normal (higher) speed	events appear to be moving faster (lapsing)
		can make very slow processes observable	

Higher/increased

higher	the comparative form of the adjective high		
	followed by the conjunction than		Sperm motility after addition of the drug was higher than before
	the preposition after with a causative agent		Sperm motility was higher after addition of the drug
increased	participle (verbal adjective)		
	followed by the preposition by and		
	a causative agent or process		Sperm motility was increased by addition of the drug
	an extent		Sperm motility was increased by 20%

Higher/lower

higher	the superior comparative form of the adjective high		
	followed by the conjunction than		The cost of this microscope is higher than that of X and Y
lower	the inferior comparative form of the adjective low		
	followed by the conjunction than		The cost of this microscope is lower than that of X or Y

Higher number of

Style: verbosity, can be shortened: replace by **more**

Him/himself

him	3 rd person singular objective (object) case	They gave the prize to him
	genitive personal pronoun	He looked forward to finding out his exam results
himself	reflexive form of personal pronoun	Each student congratulated himself

See: [Herself/himself/themselves](#), [Intensive/reflexive genitive pronouns](#)

Hint

noun	a slight or indirect indication or suggestion	
	used when there is insufficient evidence for a conclusion to be drawn	He gave no hint of his attitude towards publishing in Nature
	expressed by the following verb in the declarative mood	The data provide a hint that the cells are stem cell precursors
verb	to suggest or indicate something indirectly or covertly	She hinted at a possible change in guidelines soon
		He hinted that he might publish elsewhere

His

See: [Her/his](#)

Histologic/histological

histological	relating to the microscopic structure of tissues	The results depend on the histological staining
---------------------	--	--

Historic/historical

historic	famous or important in history	The Origin of Species was a historic publication
historical	of or concerning history (previously published results)	Our results were compared with those of historical controls

Hither/thither/whither

hither	(formal) adverb	to or towards this place	Bring the students hither
thither	(formal) adverb	to or towards that place	What attracted him thither ?
whither	(formal) interrogative adverb	to what place or state	Whither are we bound?
		what is the likely future of	Whither the epididymis?
	relative adverb	to which (referring to a place)	The seminar was in the main hall, whither Jennifer was brought
		to whatever place, wherever	We could drive whither we pleased

Hitherto/thitherto

hitherto	(formal) until this time, until now , previously, heretofore	I am now retired; hitherto I was a scientist
thitherto	(formal) until that time, until then , theretofore	In 1985 I moved to Germany; thitherto I had lived in England

See: [Plain English](#)

Hold off on

Style: verbosity, can be shortened: use Plain English, replace by **delay**

See: [Light/phrasal verbs](#)

Holding

non-finite forms of the verb to hold

a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Fused participles](#), [Gerunds/participles](#)

ALERT Check whether **holding** is used as a **gerund** or a **participle**

The adjacent lab. staff complained of us **holding** noisy discussions

ERROR *Semantics*: fused participle, the **objective** case implies that the staff **complained of us**

CORRECT [if our **noisy discussions** were the source of complaint] by

using the **genitive** and a **gerund**

The adjacent lab. staff complained of **our holding** noisy discussions

Homo/homo- (Greek, Latin)

<i>homo</i>	Latin	noun	man	rhymes with 'home-oh'	Homo sapiens
<i>homo-</i>	Greek	prefix	the same	rhymes with 'Tom-oh'	Homosexual

Homogenate/homogenise

homogenate noun a suspension of cell fragments obtained after tissue homogenisation The tissue **homogenate** was centrifuged
is not a verb

homogenise verb to prepare a cell suspension by physical treatment of tissue in liquid Tissue from each male was **homogenised**

Homogenated/homogenised

homogenised past tense and past participle of the verb to homogenise The tissue was **homogenised** and the extract centrifuged

See: [Back-formation](#)

Homogeneous/homogenous

homogeneous of the same nature, alike, of substances in the same phase Vortex the sample well to produce a **homogeneous** solution

homogenous **former** terminology for homologous

See: [Analogous/homologous](#)

ALERT Check that **homogenous** is the **intended word**

The samples were aliquotted after they had been thoroughly mixed until they were **homogenous**

ERROR *Syntax*: confusion with homogeneous

CORRECT by **replacing homogenous** by **homogeneous**

The samples were aliquotted after they had been thoroughly mixed until they were **homogeneous**

Homographs

See: [Hetero-/homo-/graphs/-nyms/-phones](#)

Homologous

See: [Analogous/homologous](#)

Homologue/orthologue/parologue/speciation

<i>homologue</i>	of a gene related to a second gene by descent from a common ancestral DNA sequence may apply to the relationship between genes separated by the events of speciation (an orthologue) genetic duplication (a parologue)
<i>orthologue</i>	of genes in different species that evolved from a common ancestral gene by speciation normally retain the same function in the course of evolution.
<i>parologue</i>	of genes related by duplication within a genome often evolve new functions, even if these are related to the original one
<i>speciation</i>	the origin of a new species capable of making a living in a new way from the species from which it arose the new species also acquires some barrier to genetic exchange with the parent species

Homonyms

See: [Hetero-/homo-/graphs/-nyms/-phones](#)

Homophones

See: [Hetero-/homo-/graphs/-nyms/-phones](#)

Honorific/honourable

<i>honorific</i>	conferring or conveying honour	He was given an honorific title
<i>honourable</i>	deserving of honour	He was an honourable man

Hopeful/optimistic

<i>hopeful</i>	A temporary inclination to take the bright view
<i>optimistic</i>	A habitual inclination to take the bright view

ALERT Check that **hopeful** is used correctly

The committee is worried by the initial lack of support but is **optimistic** that the students will eventually accept the new rules
 ERROR *Syntax*: the feeling of eventual acceptance is most likely **temporary** (just after lack of support results) **not habitual**
 CORRECT by **replacing optimistic** by **hopeful**
 The committee is worried by the initial lack of support but is **hopeful** that the students will eventually accept the new rules

Hopefully

adverb used to describe

verbs or verbal phrases placed **after** the **verb**

He **went** to the examination **hopefully**

[The manner in which he went (**hoping to pass**) is described]

whole clauses placed at the **beginning** of the sentence

Hopefully, they'll wait for us at the station

[**It is to be hoped/we hope** that they will wait for us at the station]

[**only people** can be **hopeful**]

Hoping

non-finite forms of the verb to hope

a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Aiming/hoping/intending to](#), [Gerunds/participles](#)

Hormonal/hormone

hormonal adjective related to hormones

hormone noun a blood-borne regulatory substance
 as **noun adjunct**

Hormonal regulation [regulation **by hormones**]

Hormones regulate epididymal development

Hormone assays [assays **of hormones**]

ALERT Check that **hormonal** is the **intended word**

The data on the **hormonal** assays are reported in Table 1

ERROR *Semantics*: this implies that the assays **were related to** hormones

CORRECT [if the assays were used to **measure** hormones] by

using a **noun as an adjunct**

The data on the **hormone** assays are reported in Table 1

Hot

See: [Cold/heat/hot/temperature](#)

Hot temperature

See: [Cold/heat/hot/temperature](#)

How

adverb

describing a **verb**

This is **how** it **should look**

describing an **adjective**

This is **how bad** it is

interrogative adverb by what means, in what or which manner

How should it look?

[for direct questions]

relative adverb the way in which, that

He told us **how** it should look

subordinating conjunction governs a **noun clause**

I don't know **how he did it**

[for indirect questions]

How... a

when **how** modifies an **adjective** in the same noun phrase as the **indefinite article**

the **determiner** comes **second** I don't know **how** good **a** scientist she is

See: [Adjectives, Determiners](#)

How/how much

how

as an adverb

precedes an **absolute** (positive) form of the adjective

The results show **how bad** treatment A was

how much adverbial phrase

precedes a **comparative** form of the adjective

The results show **how much worse** treatment B was

How/what

how

as an adverb

describes a **verb**

After being stained this is **how** it **should look**

what

pronoun

refers to the **object** of a verb

After being stained this is **what** it should look like

How/what it should look

how

how is an **adverb** describing the **verb**

After being stained this is **how** it **should look**

See: [Look/look as if/look like](#)

How/what it should look like

what

what is a **pronoun** describing the **object** of the verb

After being stained this is **what** it should look like

See: [Look/look as if/look like](#)

How/what/why

how

interrogative adverb

by what means, in what or which manner

in questions answered by providing a **mechanism**

How did you do that?

what

interrogative adverb

to what extent

in questions answered by providing an **amount**

What does it matter?

interrogative pronoun

asking for information

		in questions answered by providing information	Do you know what to do next?
why	interrogative adverb	for what cause or reason	
		in questions answered by providing a reason	Do you know why I used this method?

See: [How/what it should look](#), [How/what it should look like](#), [Reason](#), [Teleology](#), [What/which](#)

ALERT Check that **how is not** confused with **what**

Only he could tell us **how** research **was like** in China at that time

ERROR *Syntax*: as both **how** and **like** describe the research, one word is **superfluous**

CORRECT by **using one or the other**, not both, by

replacing the how by what

Only he could tell us **what** research **was like** in China at that time

omitting like

Only he could tell us **how** research **was** in China at that time

ALERT Check that **why does not** raise the issue of **purposes** or **reasons** for biological events

We are interested in knowing **why** the epididymis has so many β -defensins

ERROR *Syntax*: the **epididymis** is **insentient and cannot** have reasons for having anything

CORRECT by

replacing why by how and inserting an **auxiliary verb**

We are interested in knowing **how** the epididymis **came to have** so many β -defensins

rewriting the sentence by being more specific

We are interested in **explaining the significance of** so many β -defensins in the epididymis

How ever/however

how ever interrogative adverb followed by another **adverb**

ever adds emphasis to **how**

How ever did he get such high marks?

however adverb in whatever way, no matter how, to whatever extent

However much time was wasted, they finished the job

beginning a sentence, **not** followed by a comma

conjunction but, nevertheless

However, much time was lost, although they finished the job

beginning a sentence, followed by a comma

mid-sentence, between commas

mid-sentence, between semicolon and comma

Much time was lost, **however**, although they finished the job

We were to go to seminar today; **however**, it was cancelled

See: [But/however](#)

Human/man/Man/mankind/men

human a human being in general, either sex, **Homo sapiens**, the human race, man

Sperm transit is faster in **humans** than **monkeys**

man a human being in general, either sex, **Homo sapiens**, the human race, human
an adult human male (as opposed to **woman**, an adult human female)

Testicular size in **man** is less than in promiscuous species

Man all human beings in general, both sexes, **Homo sapiens**, the human race, mankind

Of all species **Man** is overpopulating the planet

mankind all human beings in genera, both sexes, **Homo sapiens**, the human race, Man
men adult human males (as opposed to **women**, adult human females)

Mankind is overpopulating the planet

See: [Animal species classification](#), [Homo/homo-](#)

Humid/humidified

humid adjective with a high level of atmospheric water vapour

Slides were placed in a **humid** atmosphere to prevent drying out

humidified past participle made humid by evaporation of water

The incubator chamber was **humidified** by heating the water in it

Hurriedly

adverb used to describe verbs or verbal phrases

placed **before** or **after** the verb

She **hurriedly sterilised** the instruments

She **sterilised** the instruments **hurriedly**

[the manner of sterilisation (**rapidly**) is described]

Hurrying

non-finite forms of the verb to hurry

a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Gerunds/participles](#)

ALERT Check that the **hurrying** is placed close to the **noun** it should modify

My **supervisor** was stopped by a **lecturer hurrying** on his way to the lecture

ERROR *Semantics*: ambiguous, it is unclear whom **hurrying** refers to

so **this could be interpreted as**

the **supervisor** was hurrying to the lecture

or

the **lecturer** was hurrying to the lecture

CORRECT [if the **former** is meant] by

placing the adverbial phrase between commas immediately after supervisor

My **supervisor, hurrying** on his way to the lecture, was stopped by a lecturer

CORRECT [if the **latter** is meant] by

inserting a comma after lecturer

My supervisor was stopped by a **lecturer, hurrying** on his way to the station

See: [Position of commas](#)

Hyper-/hypo-/iso-

hyper-	above, over	Hyperglycaemia describes blood glucose above the upper reference limit for normal
	for fluids followed by to	Cauda epididymidal fluid is hypertonic to cervical mucus
	for cells followed by for	Cauda epididymidal fluid is hypertonic for erythrocytes [osmolality > erythrocyte cytoplasm]
hypo-	below, under	Hypo-natraemia describes blood sodium below the lower reference limit for normal
	for fluids followed by to	Cervical mucus is hypotonic to cauda epididymidal fluid
	for cells followed by for	Uterine fluid is hypotonic for cauda epididymidal spermatozoa [osmolality < sperm cytoplasm]
iso-	normal, same as	Isotonic saline is a saline solution causing no change in erythrocyte cell volume
	for fluids followed by with	The culture medium was isotonic with blood serum [osmolality = erythrocyte cytoplasm]
		Human cervical mucus is isosmotic with unliquefied semen [osmolality = sperm cytoplasm]

See: [Molality/osmolality/osmolarity/tonicity](#), [Prefix list](#)

ALERT Check that **hypertonic, hypotonic, isotonic** *are not* used with prepositional phrases **implying a comparison**

The culture medium was **isotonic compared with/in comparison with** blood serum

ERROR *Tautology*: as **iso** is a **comparative** prefix, and the prepositional phrases **imply a comparison**, the phrases are **superfluous**

CORRECT by **omitting compared/in comparison**

The culture medium was **isotonic with** blood serum

Epididymal fluid is **hypertonic compared with** blood serum

Cervical mucus is **hypotonic in comparison with** liquefied seminal plasma

ERROR *Tautology*: as **hyper** and **hypo** are **comparative** prefixes, and the prepositional phrases **imply a comparison**, the phrases are **superfluous**

CORRECT by **replacing compared with/in comparison with** by **to**

Epididymal fluid is **hypertonic to** blood serum

Cervical mucus is **hypotonic to** liquefied seminal plasma

Hyper-activated/-activation

hyperactivated	adjective	in the state of hyperactivation	requires no article	Hyperactivated spermatozoa were sought [cells displaying hyperactivation]
hyperactivation	noun	a specific process	requires no article	Hyperactivation was assessed by CASA
	as noun adjunct	defining a specific process	requires the definite article	The hyperactivation process was studied

See: [Definite/indefinite/no article](#), [Determiners](#)

Hyperbole

exaggeration

NOTE *Overused words*: often used unnecessarily, as it is unnecessary to state the obvious [**omit**]

See: [Grammar/style](#)

Hypercorrection

the **misapplication** of a linguistic rule to a situation

although many American spellings with an 'e'

are spelled in British English with 'ae'

it is not always the case: correct

incorrect (**hypercorrection**)

etiology

aetiology

leukocytopenia

leukocytopaenia

hemoglobin

haemoglobin

stapedial

stapaedial

pediatrics

paediatrics

venepuncture

venaepuncture

See: [Spelling](#)

Hypernyms

See: [Hyper-/hypo-nyms](#)

Hyper-osmotic/-tonic

hyper-osmotic of a fluid with higher osmolality than another

hypertonic of a fluid in which suspended cells shrink

Liquefied human semen is **hyper-osmotic to** cervical mucus

Cauda epididymidal fluid is **hypertonic for** erythrocytes [with a higher osmolality than that of erythrocyte cytoplasm]

See: [High ionic strength/hypertonic](#), [Molality/osmolality/osmolarity/tonicity](#)

Hyper-plasia/-trophy

hyperplasia the enlargement of an organ or tissue caused by an increase in the **number** of its cells

hypertrophy the enlargement of an organ or tissue caused by an increase in the **size** of its cells

Hypertonic

See: [High ionic strength/hypertonic](#), [Hyper-osmotic/-tonic](#)

Hypertrophy

See: [Hyper-plasia/-trophy](#)

Hyphen

See: [Dash/hyphen](#)

Hypo-

See: [Hyper-/hypo-/iso-](#), [Prefix list](#)

Hyponyms

See: [Hyper-/hypo-nyms](#)

Hypo-osmotic/-tonic

<i>hypo-osmotic</i>	with lower osmolality than another	Human cervical mucus is hypo-osmotic to liquefied seminal plasma
<i>hypotonic</i>	causing suspended cells swell	Uterine fluid is hypotonic for cauda epididymidal spermatozoa [osmolality < sperm cytoplasm]

See: [Hypotonic/low ionic strength](#), [Molality/osmolality/osmolarity/tonicity](#)

Hypo-plasia/-trophy

<i>hypoplasia</i>	the shrinkage of an organ or tissue caused by a decrease in the number of its cells
<i>hypotrophy</i>	the shrinkage of an organ or tissue caused by a decrease in the size of its cells

Hypothesis/idea/theory

<i>hypothesis</i>	a supposition made on the basis of limited evidence as a starting point for further investigation a definite statement (positive or negative) open to verification requires a verb in the declarative to indicate certainty We hypothesise that the tonicity of the medium is responsible for the cellular swelling observed
<i>idea</i>	a concept, postulate or speculation made on the basis of limited evidence an uncertain thought to be considered requires an auxiliary verb to reflect uncertainty The tonicity of the medium may be responsible for the cellular swelling observed
<i>theory</i>	a supposition or a system of ideas intended to explain a considerable body of facts a definite statement (positive or negative) open to verification requires a verb in the declarative to indicate certainty Our theory is that the tonicity of the medium controls cell volume

See: [Certainty/uncertainty](#)

Hypothesise that

used when there is **insufficient evidence** for a conclusion to be drawn
expressed by the following verb in the **declarative** mood We **hypothesise that** cells **are** lost because of apoptosis

See: [Certainty/uncertainty](#), [Moods of verbs](#)

ALERT Check that the verb following **hypothesise that** is in the **declarative** mood

We have **hypothesised that** the enzyme **could act** as a true ROS scavenger

ERROR *Oxymoron*: a **hypothesis** reflects **something considered certain** but the conditional **could** implies a **condition**

CORRECT [if there is **sufficient** evidence] by

using the **declarative** mood

We have **hypothesised that** the enzyme **acts** as a true ROS scavenger

CORRECT [if there is a **condition**] by

providing the **condition**

We have **hypothesised that** the enzyme **could act** as a true ROS scavenger **if ROS are generated from damaged spermatozoa**

CORRECT [to emphasise **uncertainty**] by

omitting **we have hypothesised that**

The enzyme **could act** as a true ROS scavenger

Hypotonic

See: [Hypo-osmotic/-tonic](#)

Hypotonic/low ionic strength

<i>hypotonic</i>	of a fluid with lower than normal tonicity (in which a cell swells) normal usually refers to blood plasma the major components can be			
	electrolytes	at low concentration	provide low osmolality	provide low ionic strength
	non-electrolytes	at low concentration	provide low osmolality	provide low ionic strength
<i>low ionic strength</i>	of a fluid with lower than normal ionic strength normal usually refers to blood plasma the major components can be			
	electrolytes	at low concentration	provide low osmolality	are likely hypotonic
	non-electrolytes	at low concentration	provide low osmolality	are likely hypotonic
		at high concentration	provide high osmolality	are likely hypertonic

See: [High ionic strength/hypertonic](#), [Hypo-osmotic/-tonic](#), [Ionic strength](#), [Molality/osmolality/osmolarity/tonicity](#)

Hypotrophy

See: [Hypo-plasia/-trophy](#)

I personal pronoun nominative case
as subject where *I* would be used on its own
I is used together with plural subjects

because *I* is nominative
can only mean

as complement used with **linking verbs**
me personal pronoun objective case
as object where *me* would be used on its own
me is used together with plural objects

because *me* is objective
can only mean

after a **preposition**

I am attending the seminar
My **colleagues** and I are attending the seminar
You/he and I will attend the seminar
She trained him better than I
She trained him better than I [**trained him**]
It **was** I who wrote that article

The award was given to **me**
The award was given to my **colleagues and me**
The award was given to **you/him** and **me**
She trained him better than **me**
She trained him better than [**she trained**] **me**
They came **to me** after the seminar

See: [He/him](#), [Her/she](#), [Sentences](#), [Than](#), [Us/we](#)

ALERT Check the order of **personal pronouns** when mentioned with others

I and my colleagues shall attend the course
STYLE *Politeness*: put your **friends** before yourself
CHANGE by **re-ordering** the **subjects**
My colleagues and I shall attend the course

The award was given to **me** and my colleagues
STYLE *Politeness*: put your **friends** before yourself
CHANGE by **re-ordering** the **objects**
The award was given to **my colleagues** and **me**

I/me too

I too response to a statement from someone as **subject**
me too response to a statement from someone as **object**

I believe his results

Support for our theory was sent by email to **me**

I too [believe his results]

[it was sent to] **Me too**

Iatrogenic/nosocomial

iatrogenic of an illness caused by medical examination or treatment
nosocomial of a disease originating in a hospital

After the operation he suffered from **iatrogenic** occlusive azoospermia
Nosocomial infections occur after admission to hospital

See: [Nosology](#)

Ibid./id. (Latin)

ibid. abbreviation of **ibidem** (in the same place)
the **source** is listed in the **immediately preceding** reference
in the **same location**
a **duplicate** reference

²⁶Soler et al (2005) *Theriogenology* 64 1236–1243

²⁷**Ibid**

id. abbreviation of **idem** (the same)
the **source** is listed in the **immediately preceding** reference
in a **different location**
a **different** reference

²⁶Cooper TG 'The Epididymis, Sperm Maturation and Fertilisation' (Springer, Berlin, 1986), p.23

²⁷**Id.** p.231

See: [cf./q.v.](#), [Ibid./id.](#), [loc. cit./op. cit.](#), [sc./viz.](#), [Vide/vide infra/supra](#)

-ic/-ical

-ic nouns clinic logic mechanic rhetoric
adjectives electric geographic graphic microscopic numeric problematic symmetric
-ical adjectives clinical logical mechanical rhetorical electrical geographical graphical microscopical numerical problematical symmetrical

See: [Biologic/biological](#), [Electric/electrical/electronic](#), [Graphic/graphical](#), [Logic/logical](#), [Mechanic/mechanical/mechanics](#),
[Microscope/microscopic/microscopical/microscopy](#), [Numeric/numerical](#), [Problematic/problematical](#), [Rhetoric/rhetorical/rhetorical question](#), [Spelling and semantics](#), [Symmetric/symmetrical](#)

id.

See: [Ibid./id.](#)

Idea

See: [Concept/idea/tenet](#)

Identical with/to

identical with exactly the same as
identical to confusion with **American English**

The passage on the second floor was **identical with** the one below

Identify

to establish the identity of something
to recognise something or distinguish it from something similar
[**only people** can **identify things**]

The man **identified** himself as the security guard
He immediately **identified** it as an epididymal cyst

See: [Differentiate/distinguish/recognise](#)

ALERT Check that **identify** relates to an object **capable of identifying**

PAX8 can correctly **identify** the tumour as one of Wolffian duct origin

ERROR *Syntax:* **PAX8** is **insentient and cannot** make identifications

CORRECT by **implying** a **human element** by use of the **passive**

PAX8 **can be used to** identify correctly the tumour as one of Wolffian duct origin

Identify/indicate/show

identify to establish the identity of something
followed by the preposition **as**

The protein band was **identified as** PRDX6 by MALDI-TOF

indicate point out, show, a definite assertion, implies **certainty**
followed by the relative pronoun **that**
followed by an **infinitive**

The MALDI-TOF results **indicated that** the protein was PRDX6ROS

The MALDI-TOF results **indicated** the protein **to be** PRDX6ROS

show to allow, cause or reveal something to be visible
followed by the relative pronoun **that**
followed by an **infinitive**
to reveal something to be true, by reason and evidence
passive voice followed by a **full infinitive**

By removing the tunica he **showed that** the coiled tubule lay beneath it

By removing the tunica he **showed** the coiled tubule **to be** lying beneath it

The acrosome reaction was **shown to be** induced by A23187

See: [Claim/demonstrate/establish/show](#), [Indicate/suggest](#)

ALERT Check that **identify** is the **intended word**

Many genes in different epididymal regions have been **identified to be** under the influence of androgens

STYLE *Word usage:* **identify is not** followed by an **infinitive**

CHANGE by

replacing **identified** by **shown**

Many genes in different epididymal regions have been **shown to be** under the influence of androgens

replacing the **infinitive** by **as being**

Many genes in different epididymal regions have been **identified as being** under the influence of androgens

rewriting **the sentence** by using an **adjective**

Many genes in different epididymal regions have been **identified as androgen-dependent**

Identify by/from

by the **agent** making the identification

He was **identified by** the **technician** who found the contamination

from the **object** identified

He was **identified from** his **fingerprint** on the Petri dish

Idiom

See: [Cliché/idiom/proverb](#)

i.e.

See: [e.g./i.e.](#)

If subordinating conjunction

and perhaps not

considering that, in view of the fact that

despite being

despite the possibility that, no matter whether

every time that, on every occasion, when, whenever

in the event that, on the condition or supposition that

in indirect questions, whether

The new director has little **if** any control

Why use confocal microscopy **if** flow cytometry can do it quicker with more precision?

The review was honest, **if** a little brutal

If it takes me two more years, I shall do it

If you heat water, it boils [an apparent universal statement]

Differences were considered significant **if** $P < 0.05$

I wondered **if** she noticed

See: [Universal statements](#)

If/though

if subordinating conjunction, adverb of condition
in the event that, on the condition or supposition that

He worked hard **if** he thought it worthwhile

though subordinating conjunction, adverb of concession
but, even if, however

He finished it **though** it took him a long time

See: [Albeit/although/though](#), [Conjunctions](#), [If/if... or/whether/whether... or/whether or not](#)

ALERT Ensure that the use of **if does not** introduce **ambiguity**

The research, **if** difficult, is rewarding

ERROR *Semantics:* ambiguous, **it is unclear** which meaning of **if** is meant

so **this could be interpreted as**

the research is difficult but **despite that**, it is rewarding

[if meaning despite being]

or

only difficult research is rewarding

[if meaning in the event that it is]

CORRECT [if the **former** is meant] by

replacing **if** by **though**

The research, **though** difficult, is rewarding

CORRECT [if the **latter** is meant] by

rewriting the sentence

If the research is difficult, it is rewarding

The manuscript was good, **if** not excellent

ERROR *Semantics*: ambiguous, it is **unclear** whether **if** or **if not** is meant so **this could be interpreted as**

the manuscript was good but **not excellent** [if meaning despite being]
or

the manuscript was **more** than good [if **not** meaning rather it was]

CORRECT [if the **former** is meant] by

replacing if by though

The manuscript was good, **though** not excellent

CORRECT [if the **latter** is meant] by

omitting good if not

The manuscript was excellent

rewriting the sentence by using more than

The manuscript was **more than** good

If/when

if

in future-time open conditionals

you do not know whether something will happen

If you phone me, I'll give you the address

[you may not want the

address]

in **what appear to be** universal statements

every time that, on every occasion, when, whenever

If you heat water, it boils

when

in **what appear to be** future-time open conditionals

something will definitely happen at some point

When you phone me, I'll give you the address [you do want the address]

in **true** universal statements

every time that, on every occasion, when, whenever

When you heat water, it boils

See: [Conditional statements](#), [Open/remote conditional clauses](#), [Universal statements](#)

If/if... or/whether/whether... or/whether or not

if

for **conditional** sentences

with **no** alternative

Phone me **if** you are going to the lab. on Saturday

[phone **only** if you intend to go on Saturday]

I don't know **if** the new student will arrive on Friday

[the new student **may not arrive** at all]

if... or

for **indirect questions**

for **conditional** sentences

with yes/no answer (informal)

with an alternative

She asked if I had read Cooper's epididymal monograph

I don't know **if** the new student will arrive on Friday **or** Saturday

[the new student **may not arrive** at all]

I don't know **if** she now works in Germany **or** Spain

[she **may not be working** at all]

whether

for **conditional** sentences

with **no** alternative

I don't know **whether** the new student will arrive on Friday

[the new student **may not arrive** at all]

She asked whether I had read Cooper's epididymal monograph

He can't decide **whether to submit** it to the Andrologia

There are doubts **about whether** the sterile bench is working

whether... or

for **conditional** sentences

with an alternative

I don't know **whether** the student will arrive on Friday **or** Saturday

[the student **will arrive**, but the day is uncertain]

I don't know **whether** she now works in Germany **or** Spain

[she **is working**, but the country is uncertain]

whether or not

with **implicit** alternatives

with **explicit** alternatives

regardless of whether

I don't know **whether or not** she is now working

Phone me **whether or not** you are going to the lab. on Saturday

[phone in either case]

The manuscript, **whether or not** by Jones, is excellently written

I intend to come, **whether** you like it **or not**

He can't decide **whether or not to submit** it to Andrologia

There are doubts **about whether or not** the sterile bench is working

See: [If/though](#)

ALERT Check that **whether** and **if** are not used together

Whether this results from the cryo-method **or if** it reflects the maturational status of the spermatozoa is not known

ERROR *Syntax*: both **whether... or** and **if** imply a condition

CORRECT by **using one or the other**, not both, by

omitting if it

Whether this results from the cryo-method **or** reflects the maturational status of the spermatozoa is not known

omitting whether and **rewriting the sentence**

It is not known **if** this results from the cryo-method **or** the maturational status of the spermatozoa

ALERT Ensure that the use of **if does not** introduce **ambiguity**

Ask him **if** it is raining

ERROR *Semantics*: ambiguous, it is **unclear** if there is an alternative so **this could be interpreted as**

asking about the weather [there **is** an alternative] (is it raining or is it not?)
 or
only ask him (something unstated) **if** it is raining [there **is no** alternative] (bring my umbrella only when it is raining)
 CORRECT [if the **former** is meant] by
inserting now
 Ask him **if** it is raining **now**
replacing if by **whether or not**
 Ask him **whether or not** it is raining
 CORRECT [if the **latter** is meant] by
replacing if by **only if**
 Ask him **only if** it is raining

If... does not mean

the subordinating conjunction **if does not** introduce a noun clause

ALERT Ensure that an **if does not** introduce a **noun clause**

If insufficient evidence has been put forward for it **does not suggest** that the hypothesis is untrue
 ERROR *Syntax*: the conjunction **if cannot** introduce a noun clause, so the verb **does not suggest** has **no subject**
 CORRECT by
inserting a demonstrative pronoun
 If insufficient evidence has been put forward for it **that does not suggest** that the hypothesis is untrue
replacing if by a **conjunctive phrase/conjunction**
The fact that/That insufficient evidence has been put forward for it **does not suggest** that the hypothesis is untrue

If... then

a discontinuous/correlative conjunction, which links **two** grammatical equivalents [if clause **then** clause]
If you administer too much anti-androgen, **then** mating performance is reduced
then may be omitted
If you administer too much anti-androgen, mating performance is reduced

If and when

Oxymoron: as **if** implies **uncertainty** whereas **when** implies **certainty**, one word is **superfluous**: use **one or the other**, not both

If conditions are such that

Style: verbosity, can be shortened: replace by **if**

If he is/was/were

is **present declarative** mood
 in a **present-time open** conditional clause (likely to be true)
 followed by the **present declarative** mood in the main clause If he **is** acting improperly, he **is** probably not feeling well
was **past declarative** mood
 in a **present-time open** conditional clause (likely to be true)
 followed by the **future declarative** mood in the main clause If he **was** acting improperly, he **will apologise** later
were **present subjunctive** mood
 in a **present-time remote** conditional clause (unlikely to be true)
 followed by the **conditional** mood in the main clause If he **were** acting improperly, he **would be doing** it deliberately

See: [If I am/was/were](#), [Declarative/subjunctive moods](#), [Open/remote conditional clauses](#), [Moods of verbs](#), [Was/were](#)

If I am/was/were

am **present declarative** mood
 in a **present-time open** conditional cause (likely to be true)
 followed by the **present declarative** mood in the main clause If I **am** acting improperly, I **can't help** it
was **past declarative** mood
 in a **present-time open** conditional clause (likely to be true)
 followed by the **present declarative** mood in the main clause If I **was** acting improperly, I **apologise**
were **present subjunctive** mood
 in a **present-time remote** conditional clause (unlikely to be true)
 followed by the **conditional** mood in the main clause If I **were** acting improperly, I **should resign** immediately

See: [If he is/was/were](#), [Declarative/subjunctive moods](#), [Open/remote conditional clauses](#), [Moods of verbs](#), [Was/were](#)

If not

perhaps even
 used to introduce a **more extreme term** than the first mentioned Thousands, **if not** millions, of spermatozoa never reach the oviducts

See: [As... if not... than](#)

If this is not the case

Style: verbosity, can be shortened: replace by **if not**

If this is the case

Style: verbosity, can be shortened: replace by **if so**

Illegal/illicit

illegal contrary to, or forbidden by, law; especially criminal law
illicit forbidden by customs, rules or law

See: [Elicit/illicit](#)

i.m.

intramuscularly into a muscle (of an injection)

Imbalance/unbalance

imbalance noun the lack of proportion between corresponding things This condition is caused by hormonal **imbalance**
unbalance noun the lack of balance, stability or symmetry The analysis was adjusted for **unbalances** in the hormonal factors
 verb to make something unsteady so it may fall The sudden opening of the door almost **unbalanced** the cleaner

Immediately/promptly/quickly/soon

immediately at once, instantly [sooner than promptly] She **immediately** left the culture room when the technician appeared
 without any intervening space She was sitting **immediately** behind me
 time After finishing one paper he **immediately** started another
promptly with little or no delay [later than immediately] He **promptly** replied after reading the editor's response
quickly at a high speed, rapidly The spermatozoa are swimming **quickly**
 with little or no delay, promptly We moved **quickly** to deal with the reviewer's questions
soon in or after a short delay [later than promptly] After adding A23187 the spermatozoa will **soon** display hyperactivation

See: [Early/soon/sooner](#), [Quick/quickly](#)

Immiscible/insoluble

immiscible of liquids not forming a homogeneous solution when mixed together
insoluble of solids incapable of being dissolved in a particular solvent

See: [Emulsion/solution/suspension](#)

Immunity/impunity

immunity the ability of an organism to resist
 toxins by sensitised white blood cells
 infection by action of specific antibodies Herd **immunity** against the virus is reached with 80% vaccination rates
 an exemption from obligation imposed by others
 a passive action one is granted **immunity**
 [broader than impunity] The poor were granted **immunity** from paying local rates
impunity the ability to act without negative consequences
 an active stance one acts with **impunity**
 [more specific than immunity] These individuals act with **impunity** by not paying taxes

Immuno-fluorescence/-fluorescent

immunofluorescence noun luminescence emitted by a fluorescently labelled antibody
 An **immunofluorescence** microscope operates on the principle of **immunofluorescence**
immunofluorescent adjective having or showing immunofluorescence
Immunofluorescent dyes are used to produce **immunofluorescent** sections

See: [Epi-fluorescence/fluorescence](#), [Fluorescence/phosphorescence](#), [Incandescence/luminance/luminescence](#)

ALERT Check whether **immuno-fluorescent** or **immuno-fluorescence** is meant

The slides were examined in an **immunofluorescent** microscope

ERROR *Semantics*: this means that the **microscope was fluorescing**

CORRECT [if the slides were fluorescing] by

replacing **immunofluorescent** by **immunofluorescence**

The slides were examined in an **immunofluorescence** microscope

Impact/impinge/infringe

impact noun a marked effect or influence Pollutants have a great **impact** of amphibian reproduction
 the effect of an object forcibly contacting another The **impact** of the lens on the floor was destructive
 verb **not** followed by a preposition
 to press something firmly The lame animals' feet **impacted** the ground less than those of the
 healthy
 to come into forcible contact with The bomb **impacted** the building with devastating effect
impinge verb followed by a **preposition**
 to have an effect upon, generally a negative effect The following are the major factors that **impinge on** male fertility
 to advance over someone else's area, to encroach The proposed fencing would **impinge on** a public footpath
infringe verb **not** followed by a preposition
 to break the terms of an agreement Making an unauthorized copy would **infringe** copyright
 to act so as to limit something, to encroach on Such widespread surveillance could **infringe** personal liberties

ALERT Check that a **impact is not** used unnecessarily as a **verb**

The growth of fibroblasts **impacted** epithelial cell growth

ERROR *Syntax*: **impact** is a **noun** used here as a **verb**

CORRECT by

replacing **impacted** by a **verb**

The growth of fibroblasts **affected/impinged on** epithelial cell growth

using **impact** as a **noun** with a **verb**

The growth of fibroblasts **had** an **impact** on epithelial cell growth

being **more specific**

The growth of fibroblasts **reduced/increased** epithelial cell growth

Impair

to damage, make worse or weaken something

does not mean to affect, to alter, to damage, to reduce

ALERT Check that the object **can be impaired**

It is clear that **impaired** sperm counts can be due to epididymal obstruction

ERROR *Semantics:* **counts** cannot be damaged or weakened

CORRECT by

replacing **impaired** by **reduced**

It is clear that **reduced** sperm counts can be due to epididymal obstruction

replacing **sperm counts** by **fertility**

It is clear that impaired **fertility** can be due to epididymal obstruction

Impart

to give, to inform, to pass on, to tell

Imperative

adjective of vital importance

To continue receiving funding, it is **imperative** that standards are maintained

in grammar one of the moods of a verb

Impermeable/impermeant

impermeable of a **membrane**

not allowing solutes to pass through

An intact cell membranes is **impermeable** to propidium iodide

impermeant of a **solute**

unable to pass through a membrane

Propidium iodide is an **impermeant** solute

ALERT Check that **impermeable** refers to the potential barrier

The **impermeable** propidium iodide was used to assess membrane integrity

ERROR *Syntax:* **impermeable** refers to the properties of a **membrane**, but is used here to define a **solute**

CORRECT by replacing **impermeable** by **impermeant**

The **impermeant** propidium iodide was used to assess membrane integrity

Impinge

See: [Impact/impinge/infringe](#)

Implement

to carry out, to do

Implemented

to have put (a decision, plan, agreement, etc.) into effect

NOTE *Overused word:* often used unnecessarily, replace by **what was implemented** [or omit]

Implicate

to show someone to be involved in something illegal

He **implicated** the Dean in providing the exam results

[**only people** can **implicate others**]

to bear some responsibility for

Viruses are **implicated** in the development of certain cancers

See: [Implicated/involved](#), [Implication/inference](#), [Imply/infer](#), [Indicate/suggest](#), [Suggest that](#)

ALERT Check that **implicate** is the **intended word**

Expression of WIF1 is high in the cells, which **implicates** a role for WIF-1 in cell junction regulation

ERROR *Syntax:* an **expression** is **insentient and cannot** make implications

CORRECT by

replacing **implicate** by **suggest**

Expression of WIF1 is high in the cells, which **suggests** a role for WIF-1 in cell junction regulation

inserting a **human element** by replacing **which implicates** by **from which we infer**

Expression of WIF1 is high in the cells, **from which we infer** a role for WIF-1 in cell junction regulation

rewriting **the sentence** with a **passive** verb

WIF-1 **has been implicated** in cell junction regulation because its expression high in the cells

Implicated/involved

implicated being shown to be involved in something

Glycoproteins are **implicated** in ion transport across epithelia

involved having or included as a necessary or integral part
complicated, difficult to understand

Glycoproteins are **involved** in ion transport across epithelia
His **involved** theory was difficult to follow

See: [Position of adjectives](#)

Implication/inference

<i>implication</i>	a conclusion drawn from something not explicitly stated The EQC monitor's implication was that the technicians colluded in obtaining their results
<i>inference</i>	a conclusion reached on the basis of evidence and reasoning The director's inference that the technicians colluded led to changes in laboratory-reporting procedures

ImPLY/infer

<i>imply</i>	to express indirectly, to insinuate, rather than to refer to explicitly [only people can make implications]	The EQC monitor implied that the technicians had colluded
<i>infer</i>	to conclude by reasoning, rather than from explicit statements [only people can make inferences]	The institute director inferred that the technicians had colluded

NOTE Writers and speakers **imply** what they hope their readers and hearers **infer**

Important for/to

<i>important for</i>	refers to society's rules	It is important for the scientist to wear a suit and tie	[it is expected of him to dress thus]
<i>important to</i>	refers to a subject's personal feelings	It is important to me that I dress smartly the meeting	[I want to be accepted]

Imposing

adjective	large, grand, impressive	An imposing Victorian college housed the seminar rooms
gerund	the imposition of something on someone	The students objected to the College's imposing a higher rent
present participle	forcing an unwelcome decision or ruling on someone	The college is imposing a rent increase on its students

See: [Fused participles](#), [Gerunds/participles](#)

ALERT Check whether **imposing** is used as a **gerund** or a **participle**

The students objected to the College **imposing** a higher rent

ERROR *Semantics:* fused participle, this implies that the students **object to the College**

CORRECT [if the **imposition** of a higher rent was the source of objection] by

using the **genitive** and a **gerund**

The students objected to the **College's imposing** a higher rent

Impracticable/Impractical

<i>impractical</i>	adjective	not worth doing, unpractical	Developing an assay on measuring pH changes is impractical
	noun	an incapable person	The new technician is impractical
<i>impracticable</i>	adjective	incapable of being put into practice	The assay is impracticable , because of the time it takes and its instability

See: [Feasible/unfeasible](#), [Practicable/practical/practicality](#)

Improve

to make or become better

ALERT Check that **improve** refers to the desired word

The treatment **improved** his infertility

ERROR *Semantics:* ambiguous, it is **unclear** whether **improve** refers to his infertility or health

so **this could be interpreted as**

he is getting more **infertile** (his infertility is **increasing**) [his health is getting **worse**]

or

he is getting more **healthy** (his health is **increasing**) [his infertility is **decreasing**]

CORRECT [if the **latter** is meant] by

replacing infertility by fertility

The treatment **improved** his fertility

replacing infertility by health

The treatment **improved** his health

replacing improved by reduced

The treatment **reduced** his infertility

Improved after/by

<i>after</i>	an action	Volume regulation improved after removing the cation channel blocker
<i>by</i>	a treatment	Volume regulation was improved by removal of the cation channel blocker

In/in to/into

<i>in</i>	preposition	presence or movement in one place	The centrifuge is in the laboratory They moved the desk in the office
<i>in to</i>	adverb followed by a preposition	each word with a separate meaning	He handed his exam paper in to the invigilator I was hoping to go in to use the free internet
<i>into</i>	preposition	movement from one place to another	He poured the solution into the culture dish The transgene will integrate into the host genome The stem cells can differentiate into epithelial cells

See: [Inject in/into](#), [Insight in/into](#), [Integrate in/into](#), [Transplant in/into](#)

In/on the contrary

in the contrary confusion with **in contrast**

on the contrary emphasises a denial by suggesting that the opposite is true He was not arrogant; **on the contrary**, he was modest in his claims

See: [Contradicting/contradictory/contrary](#), [Rather/rather than](#)

In/on the opposite

in the opposite confusion with **in the other direction**
on the opposite confusion with **on the contrary**

In/on time

in time with enough time to spare, before the last moment The animal would have died if it had not reached the hospital **in time**
on time at the planned time, neither late nor early Stefan wants the meeting to start **on time**

In/to

in for proportions a dilution of 1-**in**-4 (1/4) is a total of **4** parts or **one** part to **three** parts (**1+3**) a **ratio** of 1-**to**-3 (**1:3**)
to for ratios a dilution of 1-**to**-4 (1:4) is **one** part to **four** parts (**1+4**) or a total of **5** parts a **proportion** of 1-**in**-5 (**1/5**)

See: [Dilution](#), [Fraction/percentage/proportion/ratio](#)

In/to my opinion

in my opinion according to my views, ideas, thoughts **In my opinion** this is not worth the paper it is written on
to my opinion confusion with **to my mind**

in-/un-

<i>in-</i>	Latin	prefix	not	for adjectives	infertile				
			lack of, without	for nouns	inability	incertitude	inequality	infertility	
<i>un-</i>	Old English	prefix	not	for adjectives	unable	uncertain	unequal	unrepeatable	unselfish
			lack of, without	for nouns	unrest	untruth			

See: [Prefix list](#)

In/under no circumstances

under no circumstances used for **emphasis** when an **action is required**
 with **subject-verb** inversion **Under no circumstances** *should* you eat in the lab.

See: [Inversion of verbs and subjects](#)

In/under the circumstances

in the circumstances indicates that a situation **exists** **In the circumstances**, I **began to feel worried that** I would not finish in time
under the circumstances indicates that a situation **requires action** **Under the circumstances**, I **had no choice but** to start writing the thesis

In a considerable number of cases

Style: verbosity, can be shortened: replace by **in a number of cases/in some cases/often**

In a few instances

Style: verbosity, can be shortened: replace by **in a few of them**

In a position to

Style: verbosity, can be shortened: replace by **can/may**

In accordance with

Style: verbosity, can be shortened: replace by **consistent with/in line with**

See: [According to/in accordance with](#)

In addition

See: [Also/in addition/on the other hand](#)

In advance of

See: [Before/in advance of](#)

In all cases

Style: verbosity, can be shortened: replace by **always**

In another word/in other words

in other words expressed in a different way, that is to say There is a difference, **in other words**, between activation and hyperactivation

In as much/inasmuch as

in as much as considering that, since, inasmuch as He was an unusual speaker **in as much as** he was deaf
inasmuch as in so far as, to the extent that, in as much as The guidelines apply only **inasmuch as** EU-compatible equipment is are concerned

Style: verbosity, can be shortened: replace by **as/because/for/in that/since**

NOTE equivalent expressions

See: [In so far/insofar](#)

In association to/with

in association with the state of occurring with something else, co-occurrence Cases of cancer were found **in association with** colitis

See: [In relation to/with](#)

In between

See: [Between/in between/in-between/inbetween](#)

In case

Style: verbosity, can be shortened: replace by **if**

See: [In case/case of/cases of/the case of](#), [In case/in order that/lest](#)

In case/in order that/lest

<i>in case</i>	in the event that, lest followed the by the subjunctive mood	He will say nothing in case he should be punished
<i>in order that</i>	for the purpose of, so that followed the by the subjunctive mood	He is saying nothing in order that he should not be punished He will say nothing in order that he may not be punished She is telling everyone her story in order that everyone may know the facts She told her story in order that everyone might know the facts The essay was altered in order that the sensitivity would be increased
<i>lest</i>	[only people and animals do things purposefully] in case, in the event that followed by the subjunctive mood	He said nothing lest he should be punished

See: [And so/so/so that](#), [Ellipsis](#), [Idiomatic word usage](#), [May](#), [Might](#), [Subjunctive mood](#)

In case/case of/cases of/the case of

<i>in case</i>	in the event that, as a provision against something being true if it is true that	We wore surgical masks in case there was contamination In case you haven't understood, let me explain
<i>in case of</i>	in the event of a situation	The fire extinguishers are here in case of fire
<i>in cases of</i>	in particular situations, in certain instances	They were patients requiring surgery in cases of prostatic cancer
<i>in the case of</i>	in the event of one particular situation	The fire extinguishers are here in the case of fire within the lab.

ALERT Check whether **case** should be singular

Deleterious pregnancy outcome has been reported **in case** of increased sperm DNA fragmentation
 ERROR *Oxymoron*: **in case** refers to unknown situations, but the **present perfect** refers to a known situation
 CORRECT [if this is a **general** statement] by
replacing in case by in cases
 Deleterious pregnancy outcome has been reported **in cases** of increased sperm DNA fragmentation
 CORRECT [if only **one** case was reported] by
replacing in case by in the case
 Deleterious pregnancy outcome has been reported **in the case** of increased sperm DNA fragmentation

In close proximity to

Style: verbosity, can be shortened: replace by **close/near**

In common

See: [Common/in common](#)

In conjunction with

Style: verbosity, can be shortened: replace by **with**

In connection with

Style: verbosity, can be shortened: replace by **about/concerning**

In consideration of the fact that

Style: verbosity, can be shortened: replace by **as/because/since**

In contrast

See: [By/In contrast](#)

In depth/in-depth

<i>in depth</i>	adverbial phrase is not an adjectival phrase	can define a verb cannot define a noun	The aim was to study animal behaviour in depth
<i>in-depth</i>	hyphenated adjective	can define a noun	He made an in-depth review

ALERT Check that **in depth is not** used as an **adjective**

They made an **in depth analysis**
 ERROR *Syntax*: the adverbial phrase **in depth** is used as an **adjectival phrase** before the **noun**
 CORRECT by
inserting a hyphen to form a compound adjective (as **noun adjunct**)
 They made an **in-depth analysis**

moving *in depth* after *analysis* to create an *adverbial phrase*

They made an analysis **in depth**

replacing *in depth* by *deep/thorough*

They made a **deep/thorough** analysis

She then made a more **in depth analysis**

ERROR Syntax: the adverbial phrase **in depth** is used as an **adjectival phrase** before the *noun*

CORRECT by

inserting a *hyphen* to form a **compound adjective** (as *noun adjunct*)

She then made a more **in-depth analysis**

moving *more in depth* after *an analysis* to create an *adverbial phrase*

She then made an analysis **in more depth**

replacing *more in depth* by *deeper/more thorough*

She then made a **deeper/more thorough** analysis

In detail/details

in detail as regards every feature or aspect, fully

In duplicate/duplicates

in duplicate twice in exactly the same way

See: [Double/twice](#), [Duplicate/replicate/triplicate](#), [Repetition](#)

In excess of

Style: verbosity, can be shortened: replace by **more than**

In fact

Style: verbosity, can be shortened: **avoid**

In few cases

Style: verbosity, can be shortened: replace by **rarely/sometimes**

In lieu of

Style: foreign word, use Plain English, replace by **instead of**

In light of the fact that

Style: verbosity, can be shortened: replace by **as/because/since**

In line with

Style: colloquialism, replace by **consistent with**

In many cases

Style: verbosity, can be shortened: replace by **often**

In many cases his...

Style: verbosity, can be shortened: replace by **many of his...**

In most cases

Style: verbosity, can be shortened: replace by **mostly/usually**

In no case

Style: verbosity, can be shortened: replace by **never**

In no way

for emphasis with **subject-verb** inversion **In no way is it** acceptable to wear a lab. coat in the social room

See: [Inversion of verbs and subjects](#)

In order

adverbial phrase correct condition for use Ensure that the new equipment is **in order**

In order for/of/that/to

<i>for</i>	with the intention that, for in accordance with the rules of procedure	Students must strictly follow the detailed procedure in order for the assay to work Is it in order for me to raise the topic of the new appointees?
<i>of</i>	according to a particular sequence	Put the downloaded files in order of chronology
<i>that</i>	with the intention that	The assay was altered in order that the sensitivity would be increased
<i>to</i>	so as to, to	The assay was adjusted in order to increase its sensitivity

See: [For the purpose of/in order to](#), [In case/in order that/lest](#), [In order to/so as to/to](#)

In order to/so as to/to

<i>in order to</i>	in order plus the infinitive marker to	subordinating conjunction phrase
	so as to, to	followed by a base infinitive
		He left early in order to get to the seminar on time
<i>so as to</i>	so as plus the infinitive marker to	subordinating conjunction phrase
	in order to, to	followed by a base infinitive
		He left early so as to get to the seminar on time
<i>to</i>	the infinitive marker to	conjunction

in order to, so as to followed by a **base infinitive**

He left early **to get** to the seminar on time

Style: **so as/in order** is **unnecessary**, **to** alone is **sufficient**

NOTE only people and animals do things **purposefully**

NOTE can create ambiguity if the **purpose phrase** precedes the **principal clause**

See: [And so/so/so that](#), [Anthropogenic/anthropometric/anthropomorphic/anthropomorphism](#), [For the purpose of/in order to](#), [Position of phrases](#), [Teleology](#)

ALERT Check that **in order to** refers to a relevant agent with an **active verb** in the main clause

In order to determine their suitability for a dissection course, the **students** undertook an aptitude test
 ERROR *Semantics*: the **only subjects mentioned** who could determine suitability are **the students** but the **students** are unlikely to determine their own suitability

CORRECT [if **unnamed others** were to determine the students' suitability] by

replacing the **active** with the **passive** voice in the subordinate clause

In order for their suitability for dissection courses **to be determined**, the students undertook an aptitude test

rewriting **the sentence**

The students undertook an aptitude test, so the department could determine their suitability for a dissection course

In order to trigger capacitation in the female genital tract, **spermatozoa** exploit ROS

ERROR *Semantics*: the **only subject mentioned** that could trigger capacitation is **spermatozoa** but **spermatozoa** are **insentient and cannot** deliberately trigger capacitation

CORRECT by **rewriting the sentence** and **explaining the mechanisms involved**

Spermatozoa produce ROS that trigger capacitation in the female tract

In order to limit oxidative insults on maturing spermatozoa, the **epididymis** balances H₂O₂ production, for optimal disulphide bond bridging, and ROS removal by scavengers

ERROR *Semantics*: the **only subject mentioned** that could limit oxidative insults is the **epididymis** but the **epididymis** is **insentient and cannot** deliberately limit oxidative insults

CORRECT by **rewriting the sentence** and **explaining the mechanisms involved**

Oxidative insults on maturing spermatozoa reflect a balance between epididymal H₂O₂ production and ROS removal by scavengers

ALERT Check that **in order to** refers to a relevant agent with a **passive verb** in the main clause

In order to analyse gene expression in the developing reproductive tract, the **rats** were killed on postnatal days 14, 21 and 28

ERROR *Semantics*: discourteous, the reader **expects** the **main clause** to identify **who did the analysis**, but the **only objects mentioned** are **rats** but **rats** are **insentient and cannot** deliberately analyse gene expression

CORRECT [if **unnamed others** were to analyse gene expression] by

replacing the **active** with the **passive** voice in the subordinate clause

In order for gene expression in the developing reproductive tract **to be analysed**, the rats were killed on postnatal days 14, 21 and 28

replacing the **passive** by the **active** voice in the main clause

In order to analyse gene expression in the developing reproductive tract, **we killed** the rats on postnatal days 14, 21 and 28

rewriting **the sentence**

Gene expression in the developing rat reproductive tract was analysed on postnatal days 14, 21 and 28

In order to characterise their function, the **proteins** were distinguished by a step-wise classification

ERROR *Semantics*: discourteous, the reader **expects** the **main clause** to identify **who did the characterisation**, but **only proteins** are mentioned but **proteins** are **insentient and cannot** deliberately characterise functions

CORRECT [if **unnamed others** were to characterise the protein function] by

replacing the **active** with the **passive** voice in the subordinate clause

In order for their function **to be characterised**, the proteins were distinguished by a step-wise classification

replacing the **passive** by the **active** voice in the main clause

In order to characterise their function, **we distinguished** the proteins by a step-wise classification

rewriting **the sentence**

Protein functions were characterised by a step-wise classification

In order to determine cell volume, flow cytometry was used

ERROR *Semantics*: discourteous, the reader **expects** the **main clause** to identify **who determined cell volume**, but **only flow cytometry** is mentioned but **cytometry** is **insentient and cannot** deliberately determine cell volume

CORRECT [if **unnamed others** were to determine cell volume] by

replacing the **active** with the **passive** voice in the subordinate clause

In order for cell volume **to be determined**, flow cytometry was used

replacing the **passive** by the **active** voice in the main clause

In order to determine cell volume, **we used** flow cytometry

rewriting **the sentence**

Cell volume was determined by flow cytometry

In other words

See: [In another word/in other words](#)

In parentheses/parenthesis

in parentheses enclosed within round brackets
 in parenthesis as a digression or afterthought

The mean values are given with the percentage of control given in parentheses
 I observe, in parenthesis, that he uses American English

See: [Parentheses/parenthesis](#)

In recognition of/recognising

<i>in recognition of</i>	prepositional phrase	He was awarded the medal in recognition of his contribution to epididymal research
<i>recognising</i>	participle (verbal adjective)	Recognising his achievements, we awarded him the medal
	gerund (verbal noun)	Recognising students' achievements is one of the Director's jobs
		[only people are capable of recognising things]

ALERT Check that **recognising** is used with something that is **capable of recognising** something

ERROR **Recognising** this caveat, numerous other studies used sperm counts as an index of male fertility
Semantics: recognising is a participle (verbal adjective) and **studies** is the nearest noun it can complement
so this implies that the **studies** did the recognising

CORRECT by

inserting a **human element**

Recognising this caveat, **scientists have designed** numerous other studies **in which** sperm counts **are used** as an index of male fertility

replacing **recognising** by a **in recognition of** and using the **passive voice**

In recognition of this caveat, numerous other studies **have been designed in which** sperm counts **are used** as an index of male fertility

In regard to/respect of

as concerns, as regards, with reference to, with regard to, with respect to	In regard to publication costs, the lower rate will be charged
	In respect of your claim, we have forwarded your bills for repayment

Style: verbosity, can be shortened: replace by **about/concerning/for/in/of/on/with**

See: [As regards/as regards to](#), [Aspect/respect](#), [Concerning](#), [With reference/regard/respect to](#)

In relation to/with

in relation to in the context of; in connection with

Style: verbosity, can be shortened: replace by **about/concerning/for/in/on/over/with**

See: [In association to/with](#)

In replicate/replicates

in replicate several times in exactly the same way

See: [Duplicate/replicate/triplicate](#), [Repetition](#)

In silico/situ/vitro/vivo

<i>in silico</i>	performed or simulated in a computer	
<i>in situ</i>	in the original position (both <i>in vivo</i> and <i>in vitro</i>)	
	inside a living organism	epididymal tubule luminal perfusion in an animal with the organ's intact blood supply
		tissue explants under the kidney capsule
	outside a living organism	epididymal tubule luminal perfusion of an excised epididymis supported in medium
		tissue explants in culture medium (also <i>in vitro</i>)
<i>in vitro</i>	taking place outside the living organism	
	taking place in a test tube, culture dish	isolated cells in culture medium
		tissue explants in culture medium (also <i>in situ</i>)
<i>in vivo</i>	taking place within a living organism	
	whole animal studies	drug administration
		gene knockout studies

NOTE unhyphenated **prepositional phrases** appear **after** the noun they define fertilisation **in vitro** (FIV) hybridisation **in situ** (HIS)
hyphenated **adjectival phrases** appear **before** the noun they define **in-vitro** fertilisation (IVF) **in-situ** hybridisation (ISH)

See: [Ex/in vivo](#)

In so far/insofar

<i>in so far</i>	to the extent, insofar	followed by that	The program performs well in so far that the graphical interface is user-friendly
<i>insofar</i>	inasmuch, as far, in so far	followed by as	The program performs well insofar as graphic presentation is concerned

See: [As far as/as long as/insofar as](#), [In as much/inasmuch as](#)

In some cases

Style: verbosity, can be shortened: replace by **sometimes**

In some cases this was the case

Style: verbosity, tautology, can be shortened: **avoid**

In some few cases

Pleonasm: as **few** means **some**, one word is **superfluous**: use **in some cases/in few cases**

See: [A few/few](#)

In some way

Style: verbosity, **avoid**

In spite of

See: [Although/even though/though](#), [Despite/in spite of](#)

In spite of the fact that

Style: verbosity, can be shortened: replace by **although/despite/though**

See: [Although/even though/though](#), [Despite/in spite of](#)

In summary/summarising

in summary in short, to summarise
summarising participle
 gerund

In summary the experiments failed to support our hypothesis
 She was **summarising** the work at the weekly lab. meeting
Summarising the work was the task of the new student

See: [Gerunds/participles](#)

ALERT Check that **summarising** has a **relevant noun** to complement

Summarising the data, persistent azoospermia following epididymitis is not uncommon

ERROR *Semantics:* **summarising** is participle (verbal adjective) and **azoospermia** is the nearest noun it can complement
so this implies that the **azoospermia** did the summarising

CORRECT [if the **speaker** had made the summary] by

introducing a human element

Summarising the data, **I conclude that** persistent azoospermia following epididymitis is not uncommon

replacing summarising the data by in summary/to summarise

In summary/to summarise, persistent azoospermia following epididymitis is not uncommon

In terms of/in the term of

in terms of with regard to the particular aspect or subject specified

Style: verbosity, can be shortened: replace by **in/for**

ALERT Check whether **in terms of** is necessary

The German microscope is better **in terms of** quality

STYLE *Verbosity:* can be shortened

CHANGE by

omitting terms of

The German microscope is better **in** quality

omitting in terms of and inserting a preposition

The German microscope is **of** better quality

The controls were suspended in saline whereas the treated samples were suspended in PVA, which is different **in terms of** conductivity

STYLE *Verbosity:* can be shortened

CHANGE by

omitting terms of

The controls were suspended in saline whereas the treated samples were suspended in PVA, which is different **in** conductivity

replacing is different in terms of by differs in

The controls were suspended in saline whereas the treated samples were suspended in PVA, which **differs** in conductivity

replacing which is different in terms of by whose conductivity is different

The controls were suspended in saline whereas the treated samples were suspended in PVA, **whose conductivity is different**

ALERT Check whether **in terms of** should be replaced by a more relevant word

The drug had an effect **in terms of** sperm motility

ERROR *Semantics:* vague, **no information is given** on what the effect was

CORRECT by **being more specific**

The drug **stimulated/inhibited** sperm motility

In that case

Style: verbosity, can be shortened: replace by **so/if so**

In the case of

Style: verbosity, can be shortened: replace by **about/concerning/for/in/on/with**

In the case in question

Style: verbosity, can be shortened: replace by **this patient/situation**

In the context of

Style: verbosity, can be shortened: replace by **about/concerning/for/in/on/with**

In the end

See: [At/in the end](#)

In the event that

Style: verbosity, can be shortened: replace by **if/when**

In the eventuality of

Style: verbosity, can be shortened: replace by **if/when**

In the first instance

Style: verbosity, can be shortened: replace by **first**

In the frame of this study

Style: verbosity, can be shortened: replace by **in this study**

In the future/past

<i>in the future</i>	at some later time	with the future tense	In the future I <i>shall work</i> on the epididymis
<i>in the past</i>	at some earlier time	with the past tense	In the past I <i>worked</i> on the testis

NOTE Overused phrases: often unnecessarily used after a verb in the future or past tense

ALERT Check that such **adverbial phrases** *are not* used with words *implying later* or *earlier times*

Subsequent publications **in the future** will compare the density of mature and immature spermatozoa

ERROR *Tautology*: as **subsequent** publications are by definition **later in time**, one word is *superfluous*

CORRECT by using **one or the other**, not both, by

omitting in the future

Subsequent publications will compare the density of mature and immature spermatozoa

omitting subsequent

Publications **in the future** will compare the density of mature and immature spermatozoa

Previous publications **in the past** have compared the density of ripe and unripe spermatozoa

ERROR *Tautology*: as **previous** publications are by definition **in the past**, one word is *superfluous*

CORRECT by using **one or the other**, not both, by

omitting in the past

Previous publications have compared ripe and unripe spermatozoa

omitting previous

Publications **in the past** have compared ripe and unripe spermatozoa

CORRECT [since all publications are in the past] by

using neither **previous** nor **in the past**

Publications have compared the density of ripe and unripe spermatozoa

In the last/recent years

<i>in recent years</i>	in the last few years, in the past few years
<i>in the last years</i>	vague, the definite article requires a specific number or date

ALERT Check that **the last years** are specified

In the last years the number of publications on epididymal dysfunction has trebled

ERROR *Syntax*: the **definite** article requires a **specific** time, but none is given

CORRECT by

providing a number

In the last **five** years the number of publications on epididymal dysfunction has trebled

replacing the last by recent

In **recent** years the number of publications on epididymal dysfunction has trebled

In the light of... we have demonstrated

Style: verbosity, can be shortened: replace by **we have demonstrated**

In the majority of instances the

Style: verbosity, can be shortened: replace by **most of the**

In the meantime

See: [Meantime/meanwhile](#)

In the near future

Style: verbosity, can be shortened: replace by **soon**

In the order of

Style: verbosity, can be shortened: replace by **about**

In the possession of

Style: verbosity, can be shortened: replace by **has/have**

In the present communication

Style: verbosity, can be shortened: replace by **here/in this paper**

In the term of

See: [In terms of/in the term of](#)

In this aspect/respect

aspect confusion with **from this aspect**
respect from a particular aspect, point or detail

In this respect their approach to the problem is similar

See: [From this aspect/respect](#)

In this case

Style: verbosity, can be shortened: replace by **here**

In this connection the statement may be made that

Style: verbosity, can be shortened: **avoid**

In this regard

Style: verbosity, can be shortened: replace by **here**

In this respect

See: [In this aspect/respect](#)

In this scenario

Style: verbosity, can be shortened: replace by **here**

In triplicate/triplicates

in triplicate thrice in exactly the same way

See: [Duplicate/replicate/triplicate](#), [Repetition](#), [Thrice/treble/triple](#)

In vacuo/vacuo

in vacuo in a vacuum
in vacuo confusion with **vacuum**

In view of the fact that

Style: verbosity, can be shortened: replace by **although/as/because/if/since**

In/upon consideration of

in in return for, on account of He paid them **in consideration of** their services
upon after considering **Upon consideration of** the data he decided to continue culturing the cells

Inadequate strength properties

Style: verbosity, can be shortened: replace by **not strong enough**

Inadvertent

See: [Fortuitous/inadvertent/serendipitous](#)

Inapt/inept

inapt not suitable or appropriate in the circumstances The analogy given was singularly **inapt** to this particular situation
inept having or showing no skill, clumsy The student's **inept** surgery was evident from the swollen scrotum

See: [Apt/likely](#)

Inasmuch as

in so far as, to the extent that

Style: verbosity, can be shortened: replace by **as/because/for/in that**

Incandescence/luminance/luminescence

incandescence the **emission** of light by a substance that has been **heated**
luminance the **intensity** of light emitted from a surface per unit area in a given direction
luminescence the **emission** of light by a substance that **has not** been heated, as in fluorescence and phosphorescence

See: [Epi-fluorescence/fluorescence](#), [Fluorescence/phosphorescence](#), [International system of units](#)

Incidence/incidence rate

incidence the occurrence, rate or frequency of something (usually undesirable)
incidence rate pleonasm, **incidence** is a **rate**

Incidence/incident

incidence the rate of occurrence of something (usually undesirable) The **incidence** of cell culture contamination **in this lab.** is very low
 has **no** plural
incident an occurrence, an event (usually undesirable) The recent **incident** of cell culture contamination was unwelcome
 plural **incidents**

Incidence/prevalence

incidence the **rate or frequency of occurrence** of something (usually undesirable)
 in a **particular area** at a **particular time** The **incidence** of cross-contamination **in this lab.** is **now** very low
 of a **disease**, the number of **new** cases in a population The **incidence** of the disease is high **in summer**

prevalence the **fact or condition** of being prevalent or common
 in a **particular area** at a **particular time**
 of a **disease**, the **total** number of cases in a population
prevalence is a **mass noun**, which **has no plural**
 the **plural** form takes a **partitive** construction

The **prevalence** of exposure increased **after** the nuclear plant opened
 The **prevalence** of the disease is **currently** low
 The **prevalence** of the flu is **currently** low
 Recent **estimates of prevalence** of flu indicate that it is increasing

See: [Prevalence/prevalent](#)

Include

See: [Between... and... /from... to...](#), Compose/comprise/consist/constitute/include

Including

non-finite forms of the verb to include
 a **participle** (verbal adjective) and **gerund** (verbal noun)
 as participle a part of a greater whole

See: [Gerunds/participles](#)

ALERT Check that **including**, used as a preposition, **is not** used with a **preposition**

He works throughout the summer, **including in** August

ERROR *Syntax*: as **including** is used here as a **preposition**, it **needs no** additional **preposition (in)** after it

CORRECT by **omitting** the **preposition**

He works throughout the summer, **including** August

ALERT Check that **including does not** list **all** the included items

Frozen semen doses were obtained from **six** bulls of different breeds **including three** Taurine and **three** Zebu

ERROR *Semantics*: **including** means part of a greater whole, whereas this describes **all six** bulls, **not** only **some of them**

CORRECT by

replacing **including** by a **colon**

Frozen semen doses were obtained from **six** bulls of different breeds: **three** Taurine and **three** Zebu

omitting the **numbers** of each breed

Frozen semen doses were obtained from **six** bulls of different breeds, **including** Taurine and Zebu

omitting the **total number** of bulls

Frozen semen doses were obtained from bulls of different breeds, **including three** Taurine and **three** Zebu

Inclusive/through

inclusive including the **limits** specified

through up to and including a specified point in an ordered sequence

They will be in London from March 24 to May 7 **inclusive**

confusion with **American English**

See: [Between... and... /from... to...](#)

Incorrect/incorrectly

incorrect adjective defining a **noun**, pronoun or noun phrase

incorrectly adverb defining a **verb**
 an **adjective**

He did the **incorrect thing**

He **added up** the figures **incorrectly**

The figures are **incorrectly calculated**

See: [Wrong/wrongly](#)

Increase/increment

increase as noun a rise in the size, amount or degree

increment noun an increase or addition, especially of a series on a fixed scale

The **increase** in CASA use was 20% in the last year

Sizes range from 5–10 mm in 1 mm **increments**

See: [Accelerate/escalate/increase](#), [Increase/induce](#)

Increase/induce

increase to affect something **already present** or active

transitive verb with **object** to **make** more, cause to be **larger**

intransitive verb to **become** more in number or extent

Treatment with hypotonic medium **increases cell size**

During capacitation hyperactivated motility **increases**

induce to initiate something **not present** or active before

transitive verb with **object** to bring about or give rise to

to bring on artificially, typically by drugs

to derive by inductive reasoning

to persuade someone to do something

The contamination outbreak **induced** a **change** in the rules

Ovulation was **induced** by HMG and hCG

From the experimental evidence, one **induces** the **hypothesis**

The speaker's fame **induced** many **students** to attend

See: [Accelerate/escalate/increase](#), [Deductive/inductive reasoning](#), [Increase/increment](#)

ALERT Check that **induce** is used correctly

DHT at all test concentrations **induced** acyl-CoA dehydrogenase activity

ERROR *Semantics*: this implies that there was no acyl-CoA dehydrogenase activity before DHT stimulation

CORRECT [if activity **already** existed] by

replacing **induced** by **increased**

DHT at all test concentrations **increased** acyl-CoA dehydrogenase activity

Increase by/to

<i>increase by</i>	indicates the extent of the increase	The sperm concentration was increased by 70% from that of the controls [an increase to 170% of controls set at 100%]
<i>increase to</i>	indicates the value after increasing	The sperm concentration was increased to 170% of that of the controls [an increase of 70% over controls set at 100%]

Increased

past tense of the verb to increase	indicates a causal relationship, with time or after some manipulation	
transitive verb with object	to make greater in extent or number	Treatment with hypotonic medium increased cell size
intransitive verb	to become greater in extent or number	Cell size increased upon incubation in hypotonic medium

See: [Higher/increased](#)

ALERT Check that **increased is not** used for direct **comparisons**

The extent of tyrosine phosphorylation was **increased compared with/in comparison with** that of uncapacitated cells

ERROR Syntax: participles **are not** used for direct comparisons

CORRECT by

replacing **increased** by **high**

The extent of tyrosine phosphorylation of capacitated cells was **high compared with/in comparison with** that of uncapacitated cells

replacing **compared with/in comparison with** by the **cause of the increase**

The extent of tyrosine phosphorylation **was increased by capacitation**

replacing **compared with/in comparison with** by **above** or **higher than**

The extent of tyrosine phosphorylation of capacitated cells was **above/higher than** that of the uncapacitated controls

rewriting **the sentence** by **stating the sequence of events**

The extent of tyrosine phosphorylation **increased after incubation in capacitating conditions**

Increased number of

Style: verbosity, can be shortened: replace by **more**

Increased relative to

Style: verbosity, can be shortened: replace by **more than/higher than**

Increasing

non-finite forms of the verb to increase	
a participle (verbal adjective)	The increasing number of laboratories using CASA is impressive
a gerund (verbal noun)	Increasing the use of CASA is the aim of the guidelines

ALERT Check whether **increasing** is a participle or gerund

During maturation the sperm glycocalyx is modified by **increasing** its negative charge

ERROR Semantics: this implies that the **glycocalyx actively increases** its own charge

CORRECT by

replacing **increasing** by **an increase in**

During maturation the sperm glycocalyx is modified by **an increase in** its negative charge

replacing **is modified by increasing its** by **increases in**

During maturation the sperm glycocalyx **increases in** negative charge

replacing **modified by characterised** and **an increase in its** by **increasing**

During maturation the sperm glycocalyx is **characterised** by **increasing** negative charge

ALERT Check whether **increasing** is needed at all

Spermatozoa were incubated in **increasing** concentrations of DHT (0.1, 1.0, 10 nM)

ERROR Semantics: this implies that the same spermatozoa were **transferred sequentially** into higher concentrations of DHT

CORRECT [if **different** aliquots of spermatozoa were incubated in only **one** of many concentrations] by

omitting **increasing concentrations of**

Spermatozoa were incubated in DHT (0.1, 1.0, 10 nM)

replacing **increasing** by **several**

Spermatozoa were incubated in **several** concentrations of DHT (0.1, 1.0, 10 nM)

Incredible/incredulous

<i>incredible</i>	hard to believe, cannot be believed	His work provided incredible evidence for his claim
<i>incredulous</i>	not believing	She was incredulous that he had mended the microscope so quickly

[**only people** can be **incredulous**]

See: [Credible/credible/credulous](#)

Increment

See: [Increase/increment](#)

Incubated during/for

<i>incubated during</i>	an action	The samples were incubated during the time that the samples were being deproteinised
<i>incubated for</i>	a period of time	The samples were incubated for 20 min at 37°C

See: [During/for/while](#)

Incumbent/recumbent

incumbent	noun	holder of office	The present incumbent will soon retire
	adjective	currently holding office	The incumbent Safety Officer will retire soon
		necessary as a duty or responsibility	It is incumbent upon the Safety Officer to give yearly updates
recumbent	adjective	lying flat in any position in comfort	He was recumbent during the bone density measurements

See: [Prone/prostrate/recumbent/repose/supine](#)

Indeed

See: [Actually/indeed](#)

Indefinite article

See: [Definite/indefinite/no article](#)

Indexes/indices

indexes	plural of a publication index	He compared the contents of the indexes of the five editions of the WHO manual
indices	plural of a calculated index	The new WHO manual lists three indices relevant to sperm morphology: MAI, SDI, TZI

Indicate/suggest

indicate	to point out, to show an assertion	implies certainty	The results indicate that ROS levels are related to capacitation [the evidence is good]
suggest	to cause to think that something exists a possibility	implies uncertainty	The results suggest that ROS levels are related to capacitation [the evidence is equivocal]

See: [Certainty/uncertainty, Imply/infer](#)

Indicate that

used when there is **sufficient evidence** for a conclusion to be drawn
expressed by the following verb in the **declarative** mood These observations **indicate that** cells **are** lost because of apoptosis

See: [Certainty/uncertainty, Declarative \(indicative\) mood](#)

ALERT Check that a verb following **indicates that** is in the **declarative** mood

The increase in sperm volume **indicates that** potassium-sensitive channels **could be** involved in volume regulation

ERROR *Oxymoron*: **indicates** reflects **certainty** but the conditional **could** implies a **uncertainty**

CORRECT [if there is **sufficient** evidence] by

using the **declarative** mood

The increase in sperm volume **indicates that** potassium-sensitive channels **are** involved in volume regulation

CORRECT [if there is a **condition**] by

providing the **condition**

The increase in sperm volume **indicates that** potassium-sensitive channels **could be** involved in volume regulation **if the ionic strength is low**

CORRECT [to emphasise **uncertainty**] by

replacing **indicates that** by **could involve** and omitting **could be involved in volume regulation**

The increase in sperm volume **could involve** potassium-sensitive channels

Indicated

pointed out, shown

NOTE *Overused word*: often used unnecessarily, replace by **what was indicated** [or omit]

Indicating

non-finite forms of the verb to indicate
a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Gerunds/participles](#)

ALERT Check that **indicating** has a **relevant noun** to modify

The **cells** were green, **indicating** that double-stranded DNA was present

ERROR *Semantics*: **indicating** is a participle (verbal adjective) and **cells** is the nearest noun it can complement

so this implies that the **cells** did the indicating

CORRECT [if the cell **colour** was indicating something] by

inserting a **noun** for **indicating** to define

The cells were green, **a fact** **indicating** that double-stranded DNA was present

inserting a **human agent**

The cells were green, **indicating to us** that double-stranded DNA was present

rewriting **the sentence** by making a **noun** the subject of a **finite verb**

The **green colour** of the cells **indicated** that double-stranded DNA was present

Indication for/of

indication for	a symptom suggesting a certain medical treatment is necessary	Impaired glucose tolerance is an indication for treatment
indication of	information that indicates something	The exchange programme is an indication of our improved relations

Indignant with/at

with someone She was indignant **with** him for his treatment of her
 at something She was indignant **at** his comment on his work

Indirect object

See: [Direct/indirect objects](#)

Indirect object case

See: [Objective \(object\) case](#)

Indubitably/undoubtedly

each means certainly, undoubtedly

Induce

See: [Increase/induce](#)

Inductive

See: [Deductive/inductive reasoning](#)

Ineffective/ineffectual

ineffective not forceful enough to achieve the desired result
despite the use of adequate methods and approaches He was an **ineffective** group leader
ineffectual not producing any significant or desired the effect
because adequate methods **were not employed** The fund-raising campaign was **ineffectual**

Inept

See: [Inapt/inept](#)

In-/sub-fertility

infertility the inability to conceive children or young the production of **no** offspring at all [WHO terminology]
subfertility reduced or impaired fertility the production of **fewer** offspring than is normal [**not** WHO terminology]

Infectious

See: [Contagious/infectious](#)

Infer

See: [Imply/infer](#)

Infertile/infertility

infertile adjective **Infertile** patients attended the clinic
 nominal adjective The clinic is open on Saturdays for **the infertile**
infertility noun The patients presented with **infertility**

See: [Nominal adjectives](#)

ALERT Check that **infertility** *is not* used as a adjective

The **infertility** patients were treated with antibiotics

ERROR Syntax: infertility is a **noun not** an **adjective**

CORRECT by

replacing the **infertility** by an **infertile**

The **infertile** patients were treated with antibiotics

rewriting **the sentence**

The patients **with infertility** were treated with antibiotics

Infinitely variable

See: [Continuously/infinitely variable](#)

Inflammable

See: [Flammable/inflammable/non-flammable](#)

Inflection (inflexion)

in grammar a change in the **form** of words nouns/pronouns/lexical verbs
 in mathematics a change of curvature from convex to concave at a particular point The point of **inflection** indicates the cut-off value
 in speaking the modulation of intonation or pitch in the voice She spoke clearly and without **inflexion**

See: [Inflection of words](#)

Inflection processes

the process of altering a word to express its current use or grammatical role in a sentence includes

declension	inflecting a <i>noun</i>	(or the set of inflected forms)	plural	dogs	touches	children
			genitive	dog's	dogs'	
conjugation	inflecting a <i>verb</i>	(or the set of inflected forms)	3 rd pers. sing. present	walks		
			past tense	walked		
			progressive	walking		
ablaut	inflecting a <i>verb</i>	by changing its vowel	tenses	sing	sang	sung

See: [Back-formation](#)

Inimical/inimicable/inimitable

inimical tending to obstruct or to harm, hostile, unfriendly
inimitable so good as to be incapable of being imitated, unique

The new language policy was **inimical** to the students' graduation
 His thesis was written in his witty **inimitable** style

Initial

first

Initialism

See: [Abbreviation/acronym/contraction/initialism](#)

Initially conceived

Pleonasm: as things can be conceived only once, **initially** is *superfluous*: use **conceived**

Initiate

to begin, to start

Inject in/into

into refers to transfer from one place to another

See: [In/in to/into](#)

Innovative/new/novel

innovative featuring new methods original in form (objects)
 creative in thinking (people)
new not existing before introduced for the first time
 already existing experienced for the first time
novel not only new original and striking in concept

The new equipment includes **innovative** designs
 The grants are awarded to **innovative** people
 Confocal microscopy involves a **new** method for combining images
 The **new** microscope will be used for research only
 This is a **novel** cytometric method for assaying sperm-bound proteins

Innuendo

See: [Euphemism/innuendo](#)

Inoperable/inoperative

inoperable unable to be implemented, impractical
 unable to be operated on
 unable to be used
inoperative not taking effect

The translated procedures were **inoperable**
 He was suffering from **inoperable** cancer
 The equipment was so rusty it was **inoperable**
 As the procedures were contrary to the new guidelines they were rendered **inoperative**

See: [Operable/operative](#)

Input/inputted

input the past tense and past participle of the verb to input
inputted another past participle of the verb to input
inputting the present participle of the verb to input

Inquiry

See: [Enquiry/inquiry](#)

Insentient objects

are **incapable** of performing human tasks
should not be used with phrases that apply only to people/animals

See: [Teleology](#)

Inside/inside of

inside preposition the inner part, the interior
inside of noun phrase the inner surface

Wait for me **inside** the foyer
 The **inside of** the building is more attractive than the outside

Insight/insights

insight mass noun the capacity to obtain deep understanding
insights count noun an accurate and deep understanding

Only by reading his work can you gain much **insight** into his thinking
 His work provides several important **insights** into language use

See: [Count/mass nouns](#)

Insight in/into

into refers to understanding of more than one place

See: [In/in to/into](#)

Insignificant/not significant/significant

Insignificant unimportant or too small for consideration
 [**not** used for statistical significance]
not significant specifically used for statistical comparisons
significant specifically used for statistical comparisons

The taxi fare was **insignificant** compared with the cost of the flight
 The difference in testicular weights was **not significant**
 The difference in epididymal weights was **significant**

ALERT Check that **insignificant** *is not* used for statistical comparisons

The results were statistically **insignificant**

STYLE *Word usage:* the word **insignificant** *is not* used for statistical results

CHANGE by

replacing **insignificant** by **non-significant**

The results were statistically **non-significant**

replacing **were insignificant** by **were not significant**

The results were **not** statistically **significant**

Insist

followed by a **base infinitive** She **insisted** that they **install** the software at the same time

Insofar as

See: [As far as/as long as/insofar as](#)

Insoluble

See: [Immiscible/insoluble](#)

Inspect

See: [Detect/determine/examine/inspect](#)

Installation/instalment

installation noun the act of installing something or someone
as **noun adjunct**

Only used qualified personnel for the **installation**

Set up the equipment after looking at the **installation guide**

instalment noun any of several parts of events made public at intervals
a sum of money due in many equal payments over a period

His memoirs were published in monthly **instalments**

He paid for the microscope in monthly **instalments**

ALERT Check that **instalment** is the intended word

They were relieved after the long-delayed **instalment** of the new microscope

ERROR *Semantics:* a **microscope** *is insentient and cannot* make payments or publications

CORRECT by replacing **instalment** by **installation**

They were relieved after the long-delayed **installation** of the new microscope

Instant/minute/moment

instant an **imprecise**, vague, short period of time [shorter than a moment]

minute an **exact** period of 60 seconds

moment an **imprecise**, vague, short period of time [longer than an instant]

Instead/instead of/rather than/rather... than

instead adverb as an alternative

Do not use density gradient centrifugation but swim-up **instead**

instead of adverbial phrase as an alternative to

I would use swim-up **instead of** density gradient centrifugation

rather than comparative conjunction introduces a contrast

I would use swim-up **rather than** density gradient centrifugation

rather... than discontinuous comparative conjunction introduces a contrast

I would **rather** use swim-up **than** density gradient centrifugation

NOTE interchangeable comparative and discontinuous conjunctions

See: [Prefer... to/rather than](#)

ALERT Check the **meaning** of **rather** when used with other **comparatives**

On my holiday I felt **more** relaxed discussing with my supervisor science in general **rather than** simply asking his advice

ERROR *Semantics:* ambiguous, **it is unclear** what **rather** refers to, the content or time of the conversation

so **this could be interpreted as** the state of relaxation being related to

what **was discussed** [I felt **more relaxed** discussing science; **less** when asking advice]

or

when **the conversation occurred** [I felt **more relaxed** on holiday **than** when not]

CORRECT [if the **former** is meant] by

replacing **rather than** by **than when**

On my holiday I felt **more** relaxed discussing with my supervisor science in general **than when** simply asking his advice

CORRECT [if the **latter** is meant] by

replacing **rather than** by **instead of** and inserting a **comma** after **relaxed**

On my holiday I felt **more** relaxed, discussing with my supervisor science in general **instead of** simply asking his advice

Institute

noun an organization having a particular purpose, especially one that is involved with academia

He's a member of The **Institute** of Biology

verb to introduce or establish an undertaking or policy

The University **instituted** a Students Fund

to begin legal proceedings in a court

She **instituted** unfair dismissal proceedings

Instil/instill

instil to establish an idea in a person's mind gradually but firmly
to put a substance into something in the form of liquid drops

He tried to **instil** high standards into hi students

Instil eyedrops for anaesthesia

past tense, past participle

instilled

present participle, gerund

instilling

Insure

See: [Assure/ensure/insure](#)

Integrate in/into

into refers to relationships of more than one place

See: [In/in to/into](#)

Integration of X with Y may be performed

Style: verbosity, can be shortened: replace by **X may be integrated with Y**

Intending

non-finite forms of the verb to intend

a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Aiming/hoping/intending to](#)

Intensity

See: [Density/intensity](#)

Intensity level

Tautology: as **intensity** is the measurable quantity, and level is a position on a scale, one word is *superfluous*: use **one or the other**, not both

Intensive/reflexive genitive pronouns

intensive used to emphasise a **subject**

noun

pronoun

Dr Barfield herself collected the material

He himself delivered the speech

reflexive refers to a subject **noun** or **pronoun**

a statement with no preposition

for emphasis after a **preposition**

with **more than one noun**

help to clarify which noun is referred to

John cut **himself**

She did the cannulation **by herself**

The **student's** paper was accepted by Nature; his supervisor was pleased with **him**
(The supervisor was pleased with the student)

The student's paper was accepted by Nature; his **supervisor** was pleased with **himself**
(The supervisor was pleased with the supervisor)

See: [Pronouns](#)

Inter-/intra- (Latin)

inter- among, between

mutually, reciprocally

inter-assay variation

(day-to-day, between-run assay variation)

interactive

intra- inside, within

intra-assay variation

(same-day, within-run assay variation)

intra-uterine insemination

See: [Prefix list](#)

Inter alia (Latin)

among others This study examines, **inter alia**, methods of whole organ, tissue fragments and cell culture

See: [Plain English](#)

Interest

the feeling of wanting to learn or know of something

the quality of exciting curiosity or holding attention

He developed an **interest** in the epididymis

That lecture was full of **interest**

Interesting

adjective arousing curiosity or interest, holding or catching the attention

That was a very **interesting** lecture

NOTE *Vague word*: often used unnecessarily, replace by a **more relevant** term [or omit]

ALERT Check if **interesting** can be replaced by a **more descriptive** term

That was a very **interesting** lecture

ERROR *Semantics*: vague, uninformative

CORRECT by replacing **interesting** by **more information**

That was a **highly informative, well presented and amusing** lecture

That was a **ridiculously verbose, out of date review of non-evidence-based concepts**

ALERT Check that **interesting** is the relevant word

It was **interesting** to check whether the spermatozoa from these males were able to fertilise an oocyte

ERROR *Semantics*: it is more likely that the **results** of the checking, not **the checking itself** will be interesting

CORRECT by

replacing **interesting** by **of interest**

It was **of interest** to check whether the spermatozoa from these males were able to fertilise an oocyte

replacing the **declarative** by the **conditional mood** and **check whether** by **know if**

It **would be interesting to know if** the spermatozoa from these males were able to fertilise an oocyte

Interestingly

adverb used to describe a whole clause

placed at the **beginning** of the sentence

Interestingly, he had never had a paper in Nature

[It is of interest that he has never had a paper in Nature]

NOTE Overused word: often used unnecessarily, **explain** why it is interesting [or omit]

Interface/interphase

interface a point, surface or place where two systems, subjects or organizations meet and interact

Non-vital spermatozoa were collected at the **interface** between the two density gradient layers

interphase the period between the end of one meiotic or mitotic division and the beginning of another

The new histochemical stain enabled the cells to be examined at **interphase**

See: [Mitosis/meiosis](#)

Interfere

to prevent a process continuing or being carried out properly

See: [Double negatives/litotes](#)

ALERT Check that **interfere** *is not* used with words **implying negation**

The drug **interfered negatively** with ejaculation

ERROR *Tautology*: as both **interfere** and **negatively** imply interruption, one word is **superfluous**

CORRECT by using **one or the other**, not both, by

omitting negatively

The drug **interfered** with ejaculation

replacing **interfered** by **effected** and **moving negatively**

The drug **effected** ejaculation **negatively**

Interference/interferences

interference **interference** is a **mass** noun, which **has no plural**
the **plural** form takes a **partitive** construction

With this method **interference** *is* often found

With this method **sources of interference** *are* often found

International

See: [Global/inter-/multi-/supra-/trans-national](#)

International/nautical/sea mile

international mile a unit of linear distance

equal to 1609 metres [1760 yards]

nautical mile a unit used for measuring distances at sea (including curvature of the earth)

an average of the **polar** and **equatorial** sea miles

equal to 1852 metres [2025 yards]

sea mile a unit of distance equal to **one minute of an arc** at the earth's surface

at the **equator** is 1842 metres [2014 yards]

at the **poles** is 1861 metres [2035 yards]

See: [Knot](#)

Interphase

See: [Interface/interphase](#)

Interrogate/query/question

interrogate to ask someone questions aggressively, closely or formally

During his audition he was **interrogated** on his involvement in plagiarising his mentor's work

to obtain data from a file or database

The most recent databases were **interrogated** to find the number of genes up-regulated in cancer

question to ask someone a question, to feel or express doubt about, to raise objections to

I **questioned** his ability to draw the proper conclusions from his data

query to ask a question, especially in order to express one's doubts about it or to check its validity or accuracy

He **queried** whether the technician had added the correct amount of calcium ionophore

See: [Demand/request](#)

ALERT Check that **question** and **interrogate** are used correctly

We **questioned** the impaired cell differentiation of the transgenic mice was due to reduced p63 expression

ERROR *Syntax*: **differentiation** is **insentient** and **cannot** answer questions

so **this could be interpreted as**

the research was **to check the possibility** of regulation of cell differentiation by p63

or

the possibility that p63 controlled cell differentiation **was being questioned**

CORRECT [if the **former** is meant] by

replacing **questioned the** by **investigated the suggestion that**

We **investigated the suggestion that** impaired cell differentiation of the transgenic mice was due to reduced p63 expression

CORRECT [if the **latter** is meant] by

inserting **whether**

We questioned **whether** the impaired cell differentiation of the transgenic mice was due to reduced p63 expression

replacing **questioned by doubted that**

We **doubted that** the impaired cell differentiation of the transgenic mice was due to reduced p63 expression

replacing **questioned by queried the concept that**

We **queried the concept that** the impaired cell differentiation of the transgenic mice was due to reduced p63 expression

We **interrogated** the possibility of regulation of the gene by the androgen receptor *in vitro*

ERROR Syntax: ambiguous, a **possibility** is **insentient and cannot** answer questions

so **this could be interpreted as**

the research was **to check the possibility** of androgenic regulation of the gene

or

the possibility of androgenic regulation of the gene **was being questioned**

CORRECT [if the **former** is meant] by

replacing **interrogated by investigated and possibility of** by **suggestion that** and inserting a **verb**

We **investigated the suggestion that** regulation of the gene **was** by the androgen receptor *in vitro*

CORRECT [if the **latter** is meant] by

replacing **interrogated by doubted**

We **doubted** the possibility of regulation of the gene by the androgen receptor *in vitro*

Our next **question** was **to ask** what the partners of the low-calcium-dependent MGP complex were

ERROR Tautology: as a **question** involves **asking**, one term is **superfluous**

CORRECT by using **one or the other**, not both, by

omitting **to ask what** and moving **were** after **what**

Our next **question** was **what were** the partners of the low-calcium-dependent MGP complex

replacing **our next question was** by **we then had**

We then had **to ask** what the partners of the low-calcium-dependent MGP complex were

Inter-/intra- species/specific

inter-species arising or occurring **between** species

Differences in intra-species sperm motility were less than **inter-species** differences

inter-specific involving members of **more than one** species

This is an **inter-specific** hybrid

intra-species arising or occurring **within** a species

Differences in **intra-species** sperm motility were less than inter-species differences

intra-specific evolution: involving the members of **one** species

The skewed distribution of populations could result from **intraspecific** competition

Interval/range

interval the values **bounded by** (and **including**) the **upper** and **lower** limits of a **range**

defined by **two** numbers: the **upper** and **lower** limits

a **95% interval** covers if **symmetrical** the central values **from the 2.5th to the 97.5th** centile inclusive

if **asymmetrical** and right-skewed **from the 5th to the 100th** centile inclusive

left-skewed **from 0 to the 95th** centile inclusive

range the values **between** (i.e. **excluding**) the **upper** and **lower** limits of an **interval**

defined by **one** number: the **difference** between **lower** from the **upper** limit

a **95% range** covers if **symmetrical** the central values the upper limit **97.5%** minus the lower limit **2.5%**

if **asymmetrical** and right-skewed the upper limit **100%** minus the lower limit **5%**

left-skewed the upper limit **95%** minus the lower limit **0%**

See: [Between... and/from... to, Centile/percentile](#)

Intra-species/-specific

See: [Inter-/intra- species/specific](#)

Invariable/invariably

invariable adjective never changing

His routine was **invariable**

invariably adverb always, in every case or on every occasion
fixed, constant, not subject to change

His seminars are **invariably** well attended

Night **invariably** follows day

Inverse/invert/obverse

inverse noun opposite or contrary in **position, direction, order** or **effect**

There was a clear **inverse** correlation between the dose of androgen and gene expression

invert verb to put upside down or in the opposite **position, order** or **arrangement**

After some adverbs the positions of the subject and verb are **inverted**

The centrifuge tubes are then **inverted** over paper tissues to allow drainage of the supernatant

obverse noun the opposite or counterpart of a **fact** or **idea**

We thought that androgens would stimulate gene expression but the **obverse** was true

See: [Converse/conversely, Inversion of verbs and subjects, Reverse/revert](#)

Inversion of verbs and subjects

when the **verb** precedes **the subject**

with **simple questions** for **direct** questions

Are the **statistical tests** consistent with the data distribution?

Was the **culture bench** sterilised last night?

with **to do**

Does he still work at the university?

with **interrogative pronouns**

How was it done?

with **compound questions**
with **complex questions**
with **ellipsis**

in sentences beginning with
adverbs

with **pronouns** and **to do**
in **both** clauses
only in the main clause

for emphasis

adverbial phrases

for emphasis

in commands

when a **neither clause** follows **not** in a sentence

See: [Ellipsis](#), [Interrogative mood](#), [Neither](#), [Nor](#)

Investigation
a study

Invoke

See: [Evoke/invoke/revoke](#)

Involve

See: [Engage/involve](#)

Involved

past participle of the verb to involve
used as an adjective its meaning depends on its position
before the **noun** means complicated
after the **noun** means relevant or affected

She gave a long and **involved explanation**
I'll have a word with the **students involved**

NOTE Overused word: often used unnecessarily, replace by **what was involved** [or omit]

See: [Implicated/involved](#), [Participles](#), [Position of adjectives](#)

ALERT Check whether **involved** should be **replaced** by a **more informative word**

Preparation of the cells for morphological analysis **was involved**

STYLE *Verbosity*: can be shortened

CHANGE by **omitting was involved** and

replacing the **noun** by its related **verb**

Cells were **prepared** for morphological analysis

Inward/inwards

inward adjective directed or proceeding to the inside
inwards adverb towards what is inside

He felt an **inward** sense of satisfaction after winning the poster prize
The culture room door opens **inwards**

Ion/ionic

ion noun a charged atom or molecule
as **noun** adjective
ionic adjective related to or using ions

The relative concentrations of sodium and potassium **ions** differ in serum and semen
The sperm membrane is involved in **ion transport** [the transport **of ions**]
The enzyme activity is mediated by **ionic** changes in the substrate

ALERT Check that **ionic** is used as an adjective

Glycoproteins have been shown to activate **ionic** transport

ERROR *Semantics*: this implies that the transport **mechanism is ionic**

CORRECT [if **ions are transported** by the mechanism] by
using a **noun**

Glycoproteins have been shown to activate **ion** transport [the transport **of ions**]

Ionic strength (μ)

What does this mean?

Did he withdraw the manuscript or **was it** rejected?

When **you are** working, **do you** listen to music?

Had they arrived yesterday, we could fix it today

([If] **they had** arrived yesterday, we could fix it today)

Hardly had I begun writing when the fire alarm rang and I had to stop

Never have I seen such wonderful cultures

Nowhere is it apparent that the cells are dividing

Rarely was the cilium observed extending for a long distance between cells

Scarcely had I started the cultures when the sterile bench broke down

Seldom have I seen such good monolayers

Hardly ever have these cells been observed dividing

Never again will I let lay people into the laboratory

Never before have I seen such beautiful monolayer cultures

No sooner had I sent off the manuscript than a similar report was published

Not only have you forgotten the references but the English grammar is poor

Not since Olson's work **have I** seen such clear ultra-micrographs

Not until Thursday shall we know the results

Only by the weekend **will the cells** be ready for passaging

Only rarely is this sort of staining observed

Only then may you attend the lectures

Only when the cells are fully dispersed **should they** be plated out

So infected were the cells that the incubator and bench had to be sterilised

In no way is it acceptable to wear a lab. coat in the social room

On no account should the UV light be left on when cells are being cultured

Under no circumstances should you eat food in the laboratory

The cells were **not** sterile and **neither was the medium**

a unitless index of the concentration of charged particles in a solution

calculated from the formula: $\mu = \frac{1}{2} \sum (ci^2)$

[half ($\frac{1}{2}$) the sum (\sum) of the molar concentration (c) of all charged components multiplied by the square (2) of their charge (i)]

positive for **charged** compounds

for 0.9% (w/v) saline

(0.9 g NaCl/100 ml = 9 g NaCl/l = 0.154 M NaCl)

$\mu = \frac{1}{2} \sum (ci^2) = \frac{1}{2} \sum [(ci^2)_{Na^+} + (ci^2)_{Cl^-}] = [(0.154 \times 1 \times 1) + (0.154 \times 1 \times 1)]/2 = [0.308]/2 = \mathbf{0.154}$

zero for **uncharged** compounds

for 0.9% (w/v) sucrose

(0.9 g sucrose/100 ml = 9 g sucrose/l = 0.0263 M sucrose)

$\mu = \frac{1}{2} \sum (ci^2)_{sucrose} = [(0.0263 \times 0 \times 0)]/2 = [0]/2 = \mathbf{0}$

See: [High ionic strength/hypertonic](#), [Hypotonic/low ionic strength](#)

i.p.

abbreviation of **intra-peritoneally** into the peritoneum (of an injection) The anaesthetic was administered **intra-peritoneally**

Ipsilateral

See: [Contra-/ipsi-](#)

Ipsso facto (Latin)

See: [De/ipsso facto](#)

Irony

adjectival form of **irony**

See: [Irony/sarcasm/sardonicism](#)

Irony/sarcasm/sardonicism

<i>irony</i>	saying the opposite of what you mean conveying a contradiction between the literal and intended meanings of words, written to amuse 'Oh, this is a good semen sample' [when all the spermatozoa are dead]
<i>sarcasm</i>	the use of irony to mock or convey contempt less scornful than sardonicism 'They pretend to pay me. I pretend to work.'
<i>sardonicism</i>	the use of irony to mock or convey contempt more scornful than sarcasm 'She's leaving early because of a headache, I suppose' [when salary is considered inadequate] [on hearing a frequent excuse]

See: [Double negatives/litotes](#), [Pretend](#)

Irradiation/radiation

<i>irradiation</i>	the process of irradiating or being irradiated	X- irradiation of the testes was used to interrupt spermatogenesis
<i>radiation</i>	the emission of energy by means of electromagnetic waves	Spermatogenesis is damaged by the effects of X- radiation (X-rays)

See: [X-/x-ray](#)

Irregardless/irrespective

irrespective not taking something into account, regardless of

See: [Prefix list](#), [Suffix list](#)

Irregular/regular verbs

irregular verbs

have **inconsistent** (individual) inflected forms of conjugation

	past tense	past participles	conjugation of 1st / 3rd person singular
to be	was	been	am / is
to do	did	done	do / does
to have	had	had	have / has
to bring	brought	brought	bring / brought
to eat	ate	eaten	eat / eats
to sing	sang	sung	sing / sings
to write	wrote	written	write / writes

regular verbs

have **consistent** (rules-based) inflected forms of

	past tense	past participles	conjugation of 1st / 3rd person singular
to cannulate	cannulated	cannulated	cannulate / cannulates
to dissect	dissected	dissected	dissect / dissects

See: [Participles](#)

Irreparable/unreparable

irreparable for **abstract** things (damage, injury, loss) unable to be repaired The drug led to **irreparable** damage to spermatogenesis
opposite of **reparable**

unreparable for **physical** things unable to be repaired The dropped lens was **unreparable**

opposite of **repairable***Irrespective/regardless*

irrespective adjective/quasi-adverb not taking something into account
regardless adverb without regard to or consideration for
 despite the prevailing circumstances

Student grants are **irrespective** of their parent's income
 The allowance is made **regardless** of age
 They continue their research **regardless**

See: [If/if... or/whether/whether... or/whether or not](#), [Prepositions](#)

Irritate

See: [Aggravate/irritate](#)

Is

3rd person singular declarative mood of the verb **to be**

See: [If he is/was/were](#), [Has been/is/was](#), [Nominative \(subject\) case](#)

Is defined as

Style: verbosity, can be shortened: replace by **is** (if not a specific definition)

Is in an extreme condition of decrepitude/degeneration

Style: verbosity, can be shortened: replace by **is extremely decrepit/degenerate**

Is likely to take place

Style: verbosity, can be shortened: replace by **is likely**

Is the procedure of choice from the point of view of cost

Style: verbosity, can be shortened: replace by **is the cheapest**

Iso-

See: [Hyper-/hypo-/iso-](#), [Prefix list](#)

Isosmotic/isotonic

isosmotic of two fluids with the same osmolality Human cervical mucus is **isosmotic with** unliquefied semen
isotonic of a fluid in which suspended cells neither shrink nor swell Cauda epididymal fluid is **isotonic for** cauda epididymal spermatozoa

See: [Hyper-/hypo-/iso-](#), [Molality/osmolality/osmolarity/tonicity](#)

Issue/problem

issue an important topic for debate or discussion There is increasing awareness of infertility **issues**
problem an unwelcome matter needing to be dealt with The couple has a fertility **problem**

NOTE *Vague words*: often used unnecessarily, replace by what **the issue/problem is** [or omit]

See: [Vague words](#)

ALERT Check that **issue** provides information

He could not attend because of health **issues**

ERROR *Semantics*: vague, **no information is given** on what the issues are

CORRECT by **being specific**

He could not attend because of **poor** health

He could not attend because he **was ill**

It

impersonal pronoun 3rd person singular

used in the normal subject or object position

to refer to a more specific **subject** or **object**

previously mentioned or easily identified

given **later** in the sentence

With regard to **the new rule**, I don't like **it**

(I don't like **the new rule**)

It is impossible to know **what he is thinking**

(**what he thinks** is impossible to know)

in grammar a dummy subject (an empty word)

used as a subject in statements about weather

It's raining

time **It's** half past five

distance **It's** two miles to the institute

people **It's** I speaking

It's she who did it

cleft sentences

It was last week that I saw her first.

NOTE *Overused word*: often used unnecessarily [omit]

See: [Dummy words](#), [It's he/him](#), [It's her/she](#), [It's I/me](#), [It's us/we](#), [Sentences](#)

ALERT Check whether the use of **it** is necessary

It is believed that carbon dating gives the most accurate results

STYLE *Verbosity*: can be shortened

It is significant to note the fact that

Style: verbosity, can be shortened: replace by **note that [or avoid]**

It is the case that

Style: verbosity, can be shortened: replace by **it is true that**

It is this that

Style: confusing, verbosity, can be shortened: replace by **this**

It is worth pointing out in this context that

Style: verbosity, can be shortened: replace by **note that [or avoid]**

It may be borne in mind that

Style: verbosity, can be shortened: **avoid**

It may be said that

Style: verbosity, can be shortened: replace by **possibly**

It may be that

Style: verbosity, can be shortened: replace by **possibly**

It may, however, be noted that

Style: verbosity, can be shortened: replace by **however**

It must not be forgotten that

Style: verbosity, **avoid**

It seems to the present writer that

Style: verbosity, can be shortened: replace by **I think that**

It should be borne in mind in this connection that

Style: verbosity, can be shortened: replace by **note that [or omit]**

It should be noted that

Style: verbosity, can be shortened: replace by **note that [or omit]**

It was considered by Jones that

Style: verbosity, can be shortened: replace by **Jones considered**

It will be noted that

Style: verbosity, can be shortened: replace by **note that**

It will be seen upon examination of Table 5 that

Style: verbosity, can be shortened: replace by **Table 5 shows/As shown in Table 5**

It will be seen upon examination that X...

Style: verbosity, can be shortened: replace by **X...**

It would thus appear that

Style: verbosity, can be shortened: replace by **apparently**

Italic/italics (Middle English, Latin, Greek 'Italian')

<i>italic</i>	adjective	forward sloping typeface
		used for foreign words
		names of species
		informal for emphasis
		formal use other non-italicised wording
<i>italics</i>	noun	an italic typeface or letter

The name of the Journal should be written in **italic** script

We perform fertilisation ***in vitro***

We work on ***Macaca mulatta***

I ***really*** wanted him to apply for the job

I **was keen for** him to apply for the job

The name of the journal is written in **italics**

See: [Foreign words](#)

ALERT Check that **italics** are necessary

She ***really*** said that she would hand it in ***after*** the seminar

STYLE *Word usage*: emphasis should be made by **wording** not text ***formatting***

CHANGE by **using words** to emphasise the meaning

She **indeed** said that she would hand it in **only** after the seminar, **not before**

Iterate/reiterate

<i>iterate</i>	to perform or utter repeatedly
<i>reiterate</i>	to say a number of times usually for emphasis or clarity
	does not mean confirm

I was only **iterating** why the epididymis is important

He only **reiterated** the points made in his last talk

See: [Check/confirm/validate/verify](#)

Its/it's

<i>its</i>	personal pronoun	3 rd person singular	genitive case			Its sensitivity is far higher than that of the older microscope
<i>it's</i>	impersonal pronoun	3 rd person singular	plus verb contraction of	it is		It's a good culture
				it has		It's been cultured for three days

See: [Abbreviation/acronym/contraction/initialism](#)

ALERT Check that that **its** agrees in number with its complementary noun

The rat testis and epididymis can transport methyl-glucose and alpha-amino-isobutyric acid across **its** epithelia in vivo
ERROR *Syntax:* the **subject** (testis and epididymis) is **plural** but **its** is **singular**
CORRECT by **using a plural pronoun**
 The rat testis and epididymis can transport methyl-glucose and alpha-amino-isobutyric acid across **their** epithelia in vivo

It's he/him
it's he the verb **to be** is a **linking** verb taking a **nominative** subject complement **It was he** who did it

It's her/she
it's she the verb **to be** is a **linking** verb taking a **nominative** subject complement **It was she** we saw in the culture room

It's I/me
it's I the verb **to be** is a **linking** verb taking a **nominative** subject complement Hello!—**it is I** speaking!

It's us/we
it's we the verb **to be** is a **linking** verb taking a **nominative** subject complement **It was we** who organised the seminar

i.v.
 abbreviation of **intra-venously** into a vein (of an injection) The isotope was administered **intra-venously**

Jargon/layman terminology
jargon technical words or expressions used by **specialists in a field**
avoid if unlikely to be understood by **laymen** or **specialists in another area**
permissible in scientific papers aimed at a **specialist audience**
layman terminology colloquial speech used by the non-specialist, general public
avoid in **scientific publications**
permissible in talks for the **general public**

See: [Colloquialism/dialect/jargon/slang/Standard English](#), [Grammar/style](#), [Spoken/written language](#)

Join together
Pleonasm: as **join** implies bringing together, **together** is **superfluous**: use **join**

Jointly
 with another person or people, together

See: [Both/each/either](#)

Judged by/from
 participial phrases if we are to judge by/from The cells had been stimulated, **judged by** their greater speed
Judged from their lower speed, the cells had been inhibited

Judgement/judgment
judgement the ability to make considered decisions or come to sensible conclusions I query his **judgement** in this case
judgment confusion with **American English**

Judging by/from
 participial phrases if we are to judge by/from **Judging by** their smaller volume, the cells had shrunk
 The cells had shrunk, **judging from** their smaller volume

Just
 adjective based on justice It was a **just** decision to reject the paper
 adverb at or almost exactly at this time He's **just** coming
 barely, by a little I **just** got here in time for the seminar
 exactly This scalpel is **just** what I need
 simply, only, no more than They were **just** interested in raising their Impact Factors
 very recently, in the immediate past I've **just** seen your manuscript
 for emphasis **Just because** the drug had no effect on sperm motility, it does not mean that it was inactive
 I've no idea **just how** he did it

Just/quite a few
just a few few, not many less than quite a few He has **just a few** publications to date [emphasises how **few**]
quite a few several more than just a few He has won **quite a few** awards for his work [emphasises how **many**]

See: [A few/few](#), [Few/fewer](#), [Few/little](#), [Few/several](#)

Just now/still
just now **up to** the point in time or the event, until now

(for something started in the past and completed recently)

used with the **present perfect**

We **have just now received** the primers [we had not received them **until**

now]

still as far as the point in time or the event, by now, yet

(for something started in the past and not completed)

used with the **present perfect**

We **have still not received** the primers [we have not received them **yet]**

See: [Until/up to now](#)

K/k

See: [Abbreviations of multipliers and units](#), [Kilo/kilo](#)

Kill

See: [Cull/kill](#), [Euphemism/innuendo](#)

Killing

non-finite forms of the verb to kill

a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Euthanasia/euthanise/kill/killing](#), [Gerunds/participles](#)

Kilo/kilo

Kilo (K) [10³] prefix for **binary** numbers **Kilobytes** (Kbytes) **Kilobits** (Kbits) **Kilopbs** (Kbps)

kilo (k) [10³] prefix for **decimal** numbers **kiloHz** (kHz) **kiloDa** (kDa) **kilogram** (kg)

See: [Bit/byte](#), [Exponentiation/logarithms](#), [Prefixes for binary multipliers](#), [Prefixes for decimal multipliers](#)

Kind

See: [Generous/kind](#), [Kindly/please](#)

Kind/kinds of

kind of adjectival phrase (informal)

to some extent, in some way or another placed before a **noun**

It was some **kind of capacitating medium**

partitive construction

its object is **singular**

The Dean is familiar with **this kind of student**

as subject the **partitive construction itself (singular)** is the head noun

This **kind of student gets** into trouble easily

kinds of partitive construction

its object can be **singular**

The Dean is familiar with **these kinds of student**

plural

as subject the **partitive construction itself (plural)** is the head noun

The Dean is familiar with **these kinds of students**

These **kinds of students are** the worst

ALERT Check that **kind of is not** placed before an **adjective**

It was **kind of sad** to see him in pain

STYLE *Word usage:* layman terminology, colloquial speech meaning a little or in some way, to some (great or small) extent

CHANGE by

omitting kind of

It was **sad** to see him in pain

replacing kind of by rather

It was **rather sad** to see him in pain

Kind/s of... is/are

kind of... is as **kind** is **singular**

This **kind of** problem **is** familiar to the technician

kinds of... are as **kinds** is **plural**

These **kinds of** problem **are** familiar to the technician

Kindly/please

kindly adverb used to describe verbs and verbal phrases

the **manner** in which verb performs is described

placed **after** the **verb** or verbal phrase She **treated** the patient **kindly**

whole clauses

meaning **please be so kind as to...**

placed at the **beginning of the clause**

Kindly stay away from the demolition area

please adverb used for

polite requests

For your safety **please** stay away from the demolition area

polite questions

Would you **please** pass me the scalpel?

ALERT Check that **kindly is not** used with **please**

Please kindly fill in the form and return it to us without delay

ERROR *Tautology:* as both **kindly** and **please** imply a polite request, one word is **superfluous**

CORRECT by using **one or the other**, not both, by

omitting kindly

Please fill in the form and return it to us without delay

omitting please

Kindly fill in the form and return it to us without delay

Kinematics/kinetics

kinetics deals with the **movements** of, and the **forces** which can act on, bodies in motion and bodies at rest
The **kinetics** of sperm motion are complex

kinematics deals only with the **movement** of various bodies
CASA machines measure sperm **kinematics**; the **kinematic** parameters VCL, VAP, VSL, ALH, BCF, MAD, LIN, STR and WOB

Kinematics is/are

is **kinematics** is a **plural** noun treated as *singular* **Kinematics deals** with the study of movement of bodies

Kinetics is/are

is **kinetics** is a **plural** noun treated as *singular* **Kinetics is** a branch of physics

Kinocilia

See: [Cilia/flagella/microvilli](#)

Knot

a unit of speed equal to one **nautical** mile per hour

See: [Metre/yard](#), [International/nautical/sea mile](#)

Know

to be certain of something
[**only humans and animals** can **know** anything]
does not mean to provide information

See: [Inform/know](#)

ALERT Check that **know** is used correctly

The experiments were designed **to know** if intracellular calcium levels were raised

ERROR *Semantics*: this implies that the **experiments** were designed to receive knowledge but **experiments** are **insentient and cannot** know anything

CORRECT by
providing a human element
The experiments were designed **for us to know** if intracellular calcium levels were raised

replacing know with **verbs** relating to **investigation**
The experiments were designed **to ascertain/to determine/to find out** if intracellular calcium levels were raised

Labeled/labelled

labelled **label** is a **polysyllabic** word with **no emphasis** on the **last syllable**
(the final consonant is **doubled** when adding a suffix and the consonant is **L** [or **R**])

Labeling/labelling

labelling **label** is a **polysyllabic** word with **no emphasis** on the **last syllable**
(the final consonant is **doubled** when adding a suffix and the consonant is **L** [or **R**])

Lacked the ability to

Style: verbosity, can be shortened: replace by **couldn't**

Lacking/missing

lacking not having (or having insufficient) something needed, but which **may not exist** I am **lacking** a screwdriver

missing having mislaid something **that exists**, absent, lost The instruction sheet is **missing**

Laid/lain

laid past participle of the verb **to lay** The animals were **laid** on soft bedding after the operation

lain past participle of the verb **to lie** The animals have **lain** there since the operation

See: [Lay/lie/underlie](#)

Large/larger

large the **absolute** (positive) form of the adjective
used with **comparative prepositional phrases** The values were **large compared with** those of the control
The values were **large in comparison with** those of the controls

larger the **comparative** form of the adjective
used with the conjunction **than** The values were **larger than** those of the control

ALERT Check that the **larger is not** used with phrases **implying a comparison**

The values were **larger compared with/in comparison with** those of the controls

ERROR *Tautology*: as **larger** is a **comparative** adjective, and the prepositional phrases **imply a comparison**, one term is **superfluous**

CORRECT by **using one or the other**, not both, by
replacing compared with/in comparison with by **than**
The values were **larger than** those of the control

replacing larger by **large**
The values were **large compared with/in comparison with** those of the control

Large fraction of

Style: verbosity, can be shortened: replace by **most/much**, or give the actual fraction

Large letters

See: [Lower/upper case](#)

Large numbers of

Style: verbosity, can be shortened: replace by **many**, or give the actual numbers

Large percentage of

Style: verbosity, can be shortened: replace by **most/much**, or give the actual percentage

Large proportion of

Style: verbosity, can be shortened: replace by **most/much**, or give the actual proportion

Last/lastly

<i>last</i>	adjective	in a position after all others in time or order, final in a numbered list	His lab. is the last one on the left His objections: it was first, too far; second, too dear; last , too difficult
	adverb	on the occasion before the present, previously	I last saw Marie-Claire at the Shanghai meeting
	noun	the person or thing mentioned after all others	The last of the guests have now gone
<i>lastly</i>	adverb	in the last place, introducing the last of a series	Lastly , I shall summarise the main points of my talk

Last/latest

<i>last</i>	final, most recent, previous
<i>latest</i>	most recent

ALERT Check whether **last** is the best word to use

Our paper was published in the **last** edition of the journal
 ERROR *Semantics*: ambiguous, **it is unclear** which meaning of **last** is meant so **this could be interpreted as**
 the **final** edition of the journal [which then ceased to publish]
 or
 the **most recent** edition of the journal [the ultimate edition]
 or
 the **previous** edition of the journal [the penultimate edition]

CORRECT [if the 1st is meant] by

replacing **last** by **final**

Our paper was published in the **final** edition of the journal

CORRECT [if the 2nd is meant] by

replacing **last** by **latest**

Our paper was published in the **latest** edition of the journal

replacing **last** by **most recent**

Our paper was published in the **most recent** edition of the journal

CORRECT [if the 3rd is meant] by

replacing **last** by **previous**

Our paper was published in the **previous** edition of the journal

Last/latter

<i>last</i>	refers to more than two things	Of the available options, physiology, biochemistry and anatomy, he studied the last
<i>latter</i>	refers to only two things	Of the available options, physiology and biochemistry, he studied the latter

See: [First/former](#), [First-/last-mentioned](#), [First-/last-named](#)

Last-mentioned

See: [First-/last-mentioned](#)

Last-named

See: [First-/last-named](#)

Latin adjectives

relating to or affecting the following species

<i>avian</i>	birds	<i>bovine</i>	cattle	<i>canine</i>	dogs	<i>caprine</i>	goats	<i>cervine</i>	deer	<i>equine</i>	horses		
<i>feline</i>	cats	<i>murine</i>	Murid rodents (rats, mice)	<i>ovine</i>	sheep	<i>piscine</i>	fish	<i>porcine</i>	pigs	<i>simian</i>	monkeys		

Latter

See: [Former/latter](#)

Lay/lie/underlie

<i>lay</i>	transitive verb	to put something somewhere present participle laying simple past tense laid past participle laid	I lay out the <i>instruments</i> He was laying out the <i>instruments</i> when I arrived Yesterday I laid out the <i>instruments</i> as usual They were laid on the operating table
<i>lie</i>	intransitive verb	to be at rest present participle lying simple past tense lay past participle lain	I lie down at 11 o'clock I was lying down when he came Yesterday I lay down at the same time He has lain down at 11 o'clock every day

[*only people and animals* can lie down]

<i>underlie</i>	transitive verb	not to tell the truth	He lies every day
		present participle lying	When he says that, he is lying
		simple past tense lied	He lied during his interview
		past participle lying	He's been lying for years
		to be a significant cause of something	I'll discuss first the larger issue that underlies the problem
		to lie or be situated beneath something	The muscle layer underlies the skin in this region
		present participle underlying	You must address the errors underlying these unexpected results
		simple past tense underlay	A faulty fuse underlay the false readings generated by the meter
		past participle underlain	Steep slopes underlain by stony soils form excellent vineyard sites

Layman's terms

See: [Jargon/layman terminology](#)

Lead/led

<i>lead</i>	to be a reason or motive for	The current results lead to the conclusion that osmolality is important
<i>led</i>	past tense of the verb to lead	The published results led the authors to believe that osmolality was unimportant
	past participle of the verb to lead	The published results have led us to believe that osmolality is unimportant

Leading question

a question that prompts, encourages or **leads** to the answer wanted by the questioner

Do you believe that the flagellar angulation is due to the medium osmolality or the maturational status of the cells?

[This implies that there are only **two** causes of angulation and that it has to be **one or the other**]

(but there may be **other causes** (e.g. lack of disulphide-containing proteins) and it may reflect **both** maturational status and osmolality)

does not mean

a question designed to embarrass the person being questioned

a question that is difficult to answer

the most important of a series of questions

Learned/learnt

<i>learned</i>	adjective	with learning	Try to study with the learned professor
	noun (nominal adjective)	intelligent people in general	In these matters I defer to the learned
	simple past tense of the verb to learn, learnt		I only learned of it yesterday
	past participle of the verb to learn, learnt		I have learned of your work from an internet search
<i>learnt</i>	simple past tense of the verb to learn, learned		I only learnt of it yesterday
	past participle of the verb to learn, learned		I have learnt of your work from an internet search

Leaving

non-finite forms of the verb to leave

a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Fused participles, Gerunds/participles](#)

ALERT Check whether **leaving** is used as a **gerund** or a **participle**

They tried to prevent **him** leaving

ERROR *Semantics*: fused participle, the **objective** case implies that they **tried to prevent him**

CORRECT [if the **attempt to leave** was prevented] by

using the **genitive** and a **gerund**

The tried to prevent **his leaving**

using a **prepositional phrase**

They tried to prevent him **from leaving**

Less/lesser

<i>less</i>	adjective	inferior comparative of little : not so great as the other	
		compares two or more items/groups	The patients with oligozoospermia had little secretion; those with vasectomy, less
	adverb	to a smaller extent, not so much	There were less severe cases locally
	determiner	a smaller amount of, not as much	The less time spent there, the better
	preposition	before subtracting something, minus	It costs HK\$4000 less tax
<i>lesser</i>	pronoun	a smaller amount, not as much	They returned in less than an hour
	adjective	inferior comparative of less (double comparative): not so great as the other	
		compares only two items/groups	Of patients and donors, the patients produced the lesser semen volume
	adverb	not so much	
		compares only two items/groups	The poster prize winner receives €100, the runners up receive lesser amounts
			Of the articles reviewed, he wrote the lesser known publication

See: [Less as inferior comparative](#)

ALERT Check that the use of **less** is clear

The students studied **less** essential elements

ERROR *Semantics*: ambiguous, **it is unclear** which meaning of **less** is meant

so **this could be interpreted as**

they studied **not so many** essential elements [less used as a **comparative adjective**]

or

they studied elements that were **not so essential** [less used as an **adverb**]

CORRECT [if the **former** is meant] by

replacing **less** by **fewer**

The students studied **fewer** essential elements

CORRECT [if the **latter** is meant] by

creating a **hyphenated adjective**

The students studies **less-essential** elements

Less/little

less the inferior **comparative** form of the adjective **little**
used with the conjunction **than**

They have **less than** the others

little the **absolute** (positive) form of the adjective **little**
used with **comparative prepositional phrases**

They have **little compared with** the others

They have **little in comparison with** the others

See: [Few/little](#)

ALERT Check that the **less is not** used with phrases **implying comparison**

There was **less** secretion **compared with/in comparison with** that in the control group

ERROR *Tautology*: as **less** is a **comparative** adjective, and the prepositional phrases **imply a comparison**, one term is **superfluous**

CORRECT by using **one or the other**, not both, by

replacing **compared with/in comparison with** by **than**

There was **less** secretion **than** that in the control group

replacing **less** by **little**

There was **little** secretion **compared with/in comparison with** that in the control group

Less as inferior comparative

inferior comparative of the adjective **little**

a **smaller amount** of **indivisible** nouns

less... **mass** nouns

We earned **less money** this year

You now have **less time** to finish the manuscript

Use **less medium** on the younger cells

less... [than] **mass** nouns

We now have **less choice than** before

The patients have **less semen than** fathers

It will cause **less trouble than** you think

a **smaller number** of **divisible** nouns

less than... **denominate** numbers

currency

He has **less than 20 dollars**

distances

The separation should be **less than 2 cm**

We are **less than 500 yards** from the Institute

g-force

Centrifuge at **less than 16,000g**

temperature

Store at **less than 5°C**

time

He stayed for **less than three years**

He was elected in **less than two months**

She was **less than 14 years old**

Vortex for **less than 10 sec**

volume

Incubate in **less than 4 ml**

weight

They weigh **less than 20 g**

measurement numbers

fractions

Less than a third of students got top marks

percentages

Less than 3% of people have been vaccinated

proportions

Less than one in four students are eligible

rates

We practise grammar **less than twice a week**

ratios

The male : female sex ratio was **less than 5:6**

counted quantifiers

Add **less than two drops of** acid to adjust the pH

He provided **less than three samples of** semen

rounded numbers

Less than 50,000 people attended

The petition signers numbered **less than 100**

Write the abstract in **less than 250 words**

...less the number **one**

Now I have **one less thing** to worry about

Now I have **one thing less** to worry about

We need three microscopes, not **one less**

...less [than] the number **one**

Mary has **one less child than** Kate

Mary has **one child less than** Kate

a **number**

This box contains **three less than** the others

See: [Count/mass nouns](#), [Counting/denominate/measurement numbers](#), [Fewer/less/more](#), [Fewer](#), [Less/lesser](#), [Less/little](#), [More as superior comparative](#)

Less than/under

less than to a lower extent

under below, beneath

does not mean less than

See: [Fewer](#), [Less as inferior comparative](#), [Under a microscope](#)

ALERT Check that **under** is not used to mean less than

The microscope costs **under** €100,000
 ERROR *Syntax*: **under** does not mean less than
 CORRECT by **replacing under** by **less than**
 The microscope costs **less than** €100,000

Less than twice

Style: verbosity, can be shortened: replace by **once**

Lesser degree

Style: verbosity, can be shortened: replace by **less**

See: [Less/lesser](#)

Lesser extent

Style: verbosity, can be shortened: replace by **less**

See: [Less/lesser](#)

Lest

See: [In case/in order that/lest](#)

Let

a lexical verb

to lease (the action of a landlord)

There are rooms **to let** for students near the University

a non-modal auxiliary verb followed by a base infinitive

to allow, to permit

The technician **let** him **use** the culture room

to form the imperative mood

Let's forget it [Let us **forget** it]

Letters

See: [Alphabet](#)

Level

a position on a scale of amount; an extent, quality or quantity
 having a flat horizontal surface

Graduates have a high **level** of unemployment

Place the Petri dish on a **level** surface for the gel to set

NOTE *Vague word*: often used unnecessarily, replace by **what sort of level** is meant [or omit]

ALERT Check if **level** should be replaced by a more informative word

Testosterone **levels** were reduced by the anti-spermatogenic agent

ERROR *Semantics*: vague, **no information is given** on what level refers to

CORRECT by

replacing level by **concentration** for fluids

Serum testosterone **concentrations** were reduced by the anti-spermatogenic agent

replacing level by **content** for tissues

The testicular testosterone **content** was reduced by the anti-spermatogenic agent

ALERT Check whether **level** can be omitted

The gene expression **level** was initially **low** and **increased** during culture

ERROR *Tautology*: as **low** indicates a position on a scale, **level** is superfluous

CORRECT by **omitting level**

The gene **expression** was initially **low** and **increased** during culture

This work shows the high **level** of complexity of gene regulation in the organ

STYLE *Tautology*: as **high** indicate a position on a scale, **level** is superfluous

CHANGE by **omitting level of**

This work shows the **high complexity** of gene regulation in the organ

The number of men with abnormal **levels** of sperm number significantly increased with age

STYLE *Verbosity*: can be shortened; vague, **no information is given** on what level refers to

CHANGE by **replacing levels of sperm number** by **numbers of spermatozoa**

The number of men with abnormal **numbers** of spermatozoa significantly increased with age

Analysis indicated a **high expression level** of these genes

STYLE *Tautology*: as **high** indicate a position on a scale, **level** is superfluous

CHANGE by **omitting level**

Analysis indicated a **high expression** of these genes

The cells expressed the pluripotency markers NANOG, OCT4, SSEA4 and TRA-1-81 **at the protein level**

STYLE *Verbosity*: can be shortened

CHANGE by **omitting at the protein level** and **replacing markers** by **marker proteins**

The cells expressed the pluripotency **marker proteins** NANOG, OCT4, SSEA4 and TRA-1-81

Expression of the pluripotency markers OCT4, SOX2 and NANOG was demonstrated **at the RNA level**

STYLE *Verbosity*: can be shortened
 CHANGE by **omitting *at the RNA level*** and **replacing *markers*** by ***marker RNA***
 Expression of the pluripotency **marker RNAs** OCT4, SOX2 and NANOG was demonstrated

ALERT Check that **levels** is used with a **singular** noun

Andrology laboratories should provide two **levels** of **investigations**: semen analysis and a relevant sperm function test
 ERROR *Syntax*: there are **two** investigations, but each is **only at one level**

CORRECT by

omitting *levels of*

Andrology laboratories should provide two **investigations**: semen analysis and a relevant sperm function test

making *investigation singular*

Andrology laboratories should provide two **levels of *investigation***: semen analysis and a relevant sperm function test

Lexical verbs

See: [Auxiliary/lexical verbs](#)

Liable/prone to

liable likely to do or experience something

Patients with this gene defect are **liable** to become infertile

prone likely to suffer from something unpleasant

The transgenic mice were **prone** to heart disease

Unlike the epididymis, the testis and prostate are cancer-**prone** organs

Licence/license

licence noun permit from an authority to use or do a particular thing

He has a **licence** to perform the surgery

license verb to grant a licence to

The Home Office **licenses** individuals to work on animals

Lie

See: [Lay/lie/underlie](#)

Light/weight

light adjective of little or low weight

The microscope was **light**

weight noun the quality of being light or heavy

The weight of the microscope was **low**

ALERT Check that both **weight** and **light** **are not** used in the same sentence

In the first subgroup, testicular **weights** were **lighter** than those in the controls

ERROR *Tautology*: as **lighter** means of lower **weight**, one word is **superfluous**

CORRECT by **using one or the other**, not both, by

replacing *lighter* by ***lower***

In the first subgroup, testicular **weights** were **lower** than those in the controls

replacing *testicular weights* by ***testes***

In the first subgroup, **testes** were **lighter** than those in the controls

Light in weight

Pleonasm: as **light** means of low **weight**, use **light** or **low in weight**

Like

adjective describing a **noun**
 characteristic, similar

Students of **like *ability*** are grouped together
 I treated him in a **like *manner***

does not mean identical to
 noun something appreciated
 as subject of a **verb**
 as object of a **verb**

My **likes *include*** ice-cream, coconut and chocolate
 The quotations could be listed **to put like** next to **like**

preposition defining a **noun** or **pronoun**
 with the same characteristics as, similar to

It looked nothing **like** an ***epididymis***
 We used to have a microscope **like *that***
 He is beginning to think **like** a ***scientist***
 The students were angry at being treated **like *children***
 It is not **like *him*** to be late
 What does ***it*** look **like**?

in a similar way to, in the manner of
 in a way appropriate to
 such as one might expect from, characteristic of
 for asking questions about the nature of something
 for comparing ***grammatical equivalents***

Ligation, **like *electro-cautery***, is used to stem bleeding
 [likens two **techniques**]
Dr Waites, **like *Dr Setchell***, did research on testicular physiology
 [likens two **scientists**]
 Adding antibiotics will prevent ***contamination like this one***
 [likens types of **contamination**]
We, **like *scientists***, believe that great claims require much evidence
 [likens **groups of people**: we are not scientists]

verb to find agreeable, enjoyable, satisfactory
 to wish for, to want

I **like** correcting manuscripts
 Would you **like** some coffee?

is not an adverb, a conjunction

See: [As/like](#), [As if/like](#), [Feel/feel as if/feel like/feel that](#), [Like/similar/similar to](#), [Like/such as](#), [Look/look as if/look like](#), [Seem/seem as if/seem like/seem that](#)

ALERT Check that **like** *is not* used as a **conjunction**

You should do **like** he does

ERROR *Syntax:* **like** is used here as a **conjunction** linking two clauses

CORRECT by **replacing like** by **as**

You should do **as** he does

It looks **like** the lens needs to be recentred

ERROR *Syntax:* **like** is used here as a **conjunction** linking two clauses

CORRECT by **replacing like** by **as if**

It looks **as if** the lens needs to be recentred

It sounds **like** the centrifuge needs to be repaired

ERROR *Syntax:* **like** is used here as a **conjunction** linking two clauses

CORRECT by **replacing like** by **as though**

It sounds **as though** the centrifuge needs to be repaired

ALERT Check that **like** as an adjective compares things of the **same category**

Like her husband, Dr Yeung's scientific education was at Reading

ERROR *Syntax:* **like** compares Dr Yeung's **husband** with her scientific **education**

CORRECT by **comparing grammatical equivalents** by

comparing people by **making Dr Yeung a subject** and **inserting a verb**

Like her **husband**, **Dr Yeung** **had** a scientific education at Reading

comparing educations by **making husband genitive**

Like her **husband's**, **Dr Yeung's** scientific education was at Reading

We are in the process of establishing a study group **like** the former Dean

ERROR *Semantic:* ambiguous, **it is unclear** whether **like** refers to the **group** or the **establishing** so **this could be interpreted as**

a **study group** similar to the Dean's study group

or

establishing a study group much as the Dean is establishing a study group

CORRECT [if the **former** is meant] by

comparing grammatical equivalents by **making Dean genitive**

We are in the process of establishing a study group **like** the former **Dean's**

CORRECT [if the **latter** is meant] by

replacing like by **as is**

We are in the process of establishing a study group **as is** the former Dean

ALERT Check that **like** as an adjective **does not** mean identical to

In countries **like** China, scientific standards vary with region

ERROR *Syntax:* as **like does not mean** identical to, this means countries **similar to** China, **but not** China itself

CORRECT [if China is **an example of (included in)** the countries where scientific standards vary with region] by **replacing like** by **such as**

In countries **such as** China, scientific standards vary with region

In **such** countries **as** China, scientific standards vary with region

There is still room for improvement in areas **like** spelling and grammar

ERROR *Syntax:* as **like does not mean** identical to, this means areas **similar to** spelling and grammar, **but not** spelling and grammar themselves

CORRECT [if spelling and grammar are **examples of (included in)** the areas where improvement is needed] by **replacing like** by **such as**

There is still room for improvement in areas **such as** spelling and grammar

replacing like by **the** and **of**

There is still room for improvement in **the** areas **of** spelling and grammar

Since his arrival he has promoted new activities **like** journal club

ERROR *Syntax:* as **like does not mean** identical to, this means he promoted activities **similar to** journal club, **but not** journal club itself

CORRECT [if journal club is **an example of (included in)** the new activities he promoted] by **replacing like** by words **such as**, **for example** or **including**

Since his arrival he has promoted new activities **such as/for example/including** journal club

CORRECT [if journal club was **the only** new activity he promoted] by

replacing new activities by **a new activity** and **like** by **namely** or **i.e.**

Since his arrival he has promoted a new activity **namely/i.e.** journal club

replacing new activities by **the new activity** and **like** by **of**

Since his arrival he has promoted **the** new activity **of** journal club

The experiments involved accepted methods **like** immuno-histochemistry and western blotting

ERROR *Syntax:* as **like does not mean** identical to, this means the accepted methods **similar to** immuno-histochemistry and western blotting, **but not** these methods themselves

CORRECT [if immuno-histochemistry and western blotting **are examples of (included in)** the validated methods used] by **replacing like** by **such as**, **for example** or **including**

The experiments involved accepted methods **such as/for example/including** immuno-histochemistry and western blotting
 CORRECT [if immuno-histochemistry and western blotting were **the only** validated methods used] by
 replacing *like* by **namely** or **i.e.**
 The experiments involved accepted methods **namely/i.e.** immuno-histochemistry and western blotting
 replacing *like* by **of** and inserting **the** before **accepted**
 The experiments involved **the** accepted methods **of** immuno-histochemistry and western blotting

Stem cell markers **like** OCT3/4 and NANOG were examined in tissue sections
 ERROR *Syntax*: as **like does not mean** identical to, this means the stem cell markers examined were **similar to** OCT3/4 and NANOG,
but not these markers themselves
 CORRECT [if OCT4 and NANOG are **examples of (included in)** the stem cell markers used] by
 replacing *like* by **such as, for example or including**
 Stem cell markers **such as/for example/including** OCT3/4 and NANOG were examined in tissue sections
 CORRECT [if OCT4 and NANOG were **the only** markers used] by
 replacing *like* by **namely** or **i.e.**
 Stem cell markers **namely/i.e.** OCT3/4 and NANOG were examined in tissue sections
 omitting *like* and inserting **the** before **stem**
 The stem cell markers OCT3/4 and NANOG were examined in tissue sections

The grant funded equipment in certain laboratories **like** cell culture and cryopreservation
 ERROR *Syntax*: as **like does not mean** identical to, this means that labs funded were **similar to** cell culture and cryopreservation labs,
but not these labs themselves
 CORRECT [if cell culture and cryo-preservation labs are **examples of (included in)** those funded by the grant] by
 replacing *like* by **such as/for example/including those of**
 The grant funded equipment in certain laboratories **such as/for example/including those of** cell culture and cryopreservation
 CORRECT [if cell culture and cryo-preservation labs are **the only laboratories** those funded by the grant] by
 replacing *like* by **namely/i.e. those of**
 The grant funded equipment in certain laboratories **namely/i.e. those of** cell culture and cryopreservation
 replacing *like* by **of** and **certain** by **the**
 The grant funded equipment in **the** laboratories **of** cell culture and cryopreservation

ALERT Check that an **adjectival phrase** containing **like** is separated by commas

At the conference I met two people who **like** me worked on the epididymis
 ERROR *Semantics*: discourteous, the reader **expects like** to be a **verb** (people who **like** me)
 and **then realises otherwise** [**like** is used as an **adjective**: people **similar to** me]
 CORRECT by inserting **commas** to create an **adjectival phrase**
 At the conference I met two people who, **like me**, worked on the epididymis

Like/similar/similar to

<i>like</i>	as a preposition	much the same as, in a similar way to, to the same degree as	My computer is old, like hers
<i>similar</i>	adjective	much the same, resembling without being identical	My computer is new, hers is similar
<i>similar to</i>	adjectival phrase	as is the case with	My computer is blue, similar to hers

ALERT Check that **similar to** links grammatical equivalents

Similar to other observations, the telomere was histone-bound
 ERROR *Semantics*: **similar to** is an adjective and **telomere** is the nearest noun it can complement
so this implies that the telomere is an observation
 CORRECT [if its **histone-bound state** was similar to that found in other observations] by
 replacing **similar to** by **as found by** or **as reported before**
As found by others' observations, the telomere was histone-bound
As reported before, the telomere was histone-bound

Similar to our previous study, the reaction rate increased with higher temperatures
 ERROR *Semantics*: **similar to** is an adjective and **reaction rate** is the closest noun it can complement
so this implies that the reaction rate is a study
 CORRECT [if the **increase in reaction rate with temperature** was similar to that found in our previous study] by
 replacing **similar to** by **as in** or **as found in**
As in/As found in our previous study, the reaction rate increased with higher temperatures
 replacing **similar to our previous study** by **as we have reported before**
As we have reported before, the reaction rate increased with higher temperature

Similar to AQP7, AQP8 was first identified through its cloning from testicular cDNA
 ERROR *Semantics*: **similar to** is an adjective and **AQP8** is the nearest noun it can complement
so this implies that AQP8 was similar to AQP7
 CORRECT [if AQP8's **identification through** cloning was similar to the identification of AQP7] by
 replacing **similar to** by **as with** or **as was the case for**
As with/As was the case for AQP7, AQP8 was first identified through its cloning from testicular cDNA

Similar to the results of Quick et al., we observed PAX2 staining in central prostatic zone
 ERROR *Semantics*: **similar to** is an adjective and **we** is the nearest noun it can complement
so this implies that we were similar to the results
 CORRECT [if our **results** were similar to those of Quick et al] by
 replacing **similar to** by **like** and **we** by **ours**
Like the results of Quick et al., **ours** demonstrated PAX2 staining in the central prostatic zone

Like/such as
like

as a **preposition**

having the same characteristics as, similar to

for **comparing** grammatical equivalents;

items **included in the same category**

Ligation, like electro-cautery, is used to stem bleeding

[likenes two **techniques**]

Dr Waites, like Dr Setchell, did research on testicular physiology

[likenes two **scientists**]

Adding antibiotics will prevent **contamination like this one**

[likenes types of **contamination**]

We, like scientists, believe his claims

[likenes **groups of people**: we are not scientists]

does not mean identical with

Since his arrival he has promoted new activities **like** journal club

[the activities are **similar to** that of journal club **but do not include** this activity]

The experiments involved accepted methods **like** immuno-histochemistry and western blotting

[the methods are **similar to** those of -histochemistry and western blotting **but were not** these methods]

Stem cell markers **like** OCT3/4 and NANOG were examined in tissue sections

[the markers examined were **similar to** OCT3/4 and NANOG **but were not** these markers]

The grant funded equipment in certain laboratories **like** cell culture and cryopreservation

[the equipment was in laboratories **similar to** cell culture and cryopreservation **but were not** these labs.]

such as relative **proun phrase**

for example, including

for **comparing** grammatical equivalents

items **included in a larger category**

may be together (X **such as** Y)

Since his arrival he has promoted new activities **such as** journal club

[journal club is an **example of (and included in)** the new activities]

The experiments involved accepted methods **such as** immuno-histochemistry and western blotting

[immuno-histochemistry and western blotting are **examples of (and included in)** the accepted methods]

Stem cell markers **such as** OCT3/4 and NANOG were examined in tissue sections

[OCT3/4 and NANOG are **examples of (and included in)** the stem cell markers examined]

The grant funded equipment in certain laboratories **such as** cell culture and cryopreservation

[cell culture and cryopreservation are **examples of (and included in)** the equipment funded]

Surgical procedures **such as** ligation and electro-cautery are used to stop bleeding

[Ligation and electro-cautery are two **examples of (and included in)** surgical procedures]

Famous Andrologists **such as** Drs Waites and Setchell founded the British Andrology Society

[Drs Waites and Setchell are two **examples of (and included in)** all famous andrologists]

Adding antibiotics will prevent contamination **such as** this one

[the contamination is an **example of (and included in)** all those prevented by the antibiotic]

His lab. book contains reports **such as** protocols and medium composition

[Protocols and medium composition are two **examples of (and included in)** reports in his lab. book]

may be separate (**such X as** Y)

Since his arrival he has promoted **such** new activities **as** journal club

The experiments involved accepted **such** methods **as** immuno-histochemistry and western blotting

The grant funded in certain laboratories **such** equipment **as** cell culture and cryopreservation

Adding antibiotics will prevent **such** contamination **as** this one

of a kind that, like one that

He was given a **bag such as** a doctor carries

See: [As/like](#), [As if/like](#), [As such/such as](#), [For example/such as](#), [Such as/that](#)

Like for example

Oxymoron: as **like** implies **exclusion** whereas **for example** implies **inclusion**, one word is **superfluous**: use **one or the other**, not both

See: [As/like](#), [As if/like](#), [Like/such as](#)

Likely/may

likely adjective

such as well might happen or be true, probable

She is a **likely** to be the lab. director

may modal auxiliary verb

expressing possibility, is possible

She **may** become the lab. director

See: [Apt/likely](#), [Certainty/uncertainty](#)

ALERT Check that **likely is not** used with words **indicating possibility**

It is **likely** that the individual cell types within the epithelium **may** perform separate functions

ERROR **Tautology**: as both **likely** and **may** indicate a **possibility**, one word is **superfluous**

CORRECT by using **one or the other**, not both, by

omitting **may**

It is **likely** that the individual cell types within the epithelium perform separate functions

omitting **it is likely that**

The individual cell types within the epithelium **may** perform separate functions

Likewise

See: [Contrari-/like-wise](#)

Limited

restricted in size, amount, or extent; few, small, or short; inadequate, insufficient, little, meagre, scant

NOTE *Vague word*: often used unnecessarily, replace by a **more specific** term [or omit]

See: [Limited amount of](#), [Limited number of](#), [Of limited use](#)

Limited amount of

Style: verbosity, can be shortened: replace by **little**

Limited number of

Style: verbosity, can be shortened: replace by **few**

Limits

See: [Above/below/within limits](#), [Between... and... /from... to...](#)

Link together

Pleonasm: as **link** implies bringing together, **together** is *superfluous*: use **link**

Lingual/literate

<i>lingual</i>	able to speak fluently	She is trilingual , as she can speak English, Cantonese and Mandarin
<i>literate</i>	able to read and write	He is biliterate in English and German

Liquefaction/liquefaction

liquefaction from the verb **to liquefy**

See: [Back-formation](#)

Liquefaction/solidification

<i>liquefaction</i>	phase change from solid to liquid by any means	Semen liquefaction occurred at room temperature
<i>solidification</i>	phase change from liquid to solid by any means	The molten agar gel solidified at room temperature

See: [Condensation/evaporation/sublimation](#), [Freezing/melting/thawing](#)

Liqueficate/liquefy

liquefy to turn into liquid

See: [Back-formation](#), [Liquefy/solidify](#)

Liqueficated/liquefied

liquefied past participle of the verb **to liquefy**

See: [Back-formation](#)

Liquefy/solidify

<i>liquefy</i>	to make or become liquid	Semen was allowed to liquefy at room temperature for 30 min
<i>solidify</i>	to make or become hard or solid	The heated molten agar gel was poured into Petri dishes and allowed to solidify at room temperature

See: [Liquefaction/solidification](#)

List

noun	a number of connected items/names written or printed consecutively	The list contained all steps involved in setting up a microscope
verb	to make a list	She listed the requirements for being a member of the society
	listed items should be syntactically similar	

See: [Serial commas](#)

ALERT Check that items presented in **lists** are grammatically similar

Our immediate concern was **to (i) establish** the normal values and **(ii) to use** them to define our subpopulations

ERROR *Syntax*: the infinitive marker **to** is placed outside (**considered common to**) the listed items, so that the **to** in (ii) is **repeated**

CORRECT by **omitting to** from the **second** item so that **base infinitives** are listed

Our immediate concern was **to (i) establish** the normal values and **(ii) use** them to define our subpopulation

moving to inside the first item so that **full infinitives** are listed

Our immediate concern was **(i) to establish** the normal values and **(ii) to use** them to define our subpopulations

He argued **that (i)** evidence for the theory was weak and **(ii) that** there was strong evidence against it

ERROR *Syntax*: the conjunction **that** is placed outside (**considered common to**) the listed items, so that the **that** in (ii) is **repeated**

CORRECT by **omitting that** from the **second** item so that **clauses without that** are listed

He argued **that (i)** evidence for the theory was weak and **(ii) there** was strong evidence against it

moving that inside the **first** item so that **clauses with that** are listed

He argued **(i) that** evidence for the theory was weak and **(ii) that** there was strong evidence against it

ALERT Check that **lists** relates to an object **capable of making lists**

Table 2 **lists** the results

ERROR *Syntax*: a **Table** is **insentient and cannot** make lists

CORRECT by **changing the verb** from the active to **passive voice**

The results **are listed** in Table 2

Literally

See: [Figuratively/literally](#)

Literate

See: [Lingual/literate](#)

Literature/literatures

literature **literature** is a **mass noun**, which **has no plural**
the plural form takes a **partitive** construction

Searching the **literature** **has** brought few citations
Several **sources of literature** **were** examined this time

Litotes

See: [Double negatives/litotes](#)

Little/rare/scarce

little adjective small in dimensions, amount or degree
adverb to a small extent
rare adjective seldom found (often associated with high quality), scarce
scarce adjective occurring in small numbers or quantities, rare

The cells will eventually form **little** colonies
I'm surprised how **little** we still know of epididymal function
This was a **rare** opportunity to study the shark's epididymis
Opportunities to work on the shark epididymis are **rare**
Human epididymides of adequate quality to culture are **scarce**

See: [A little/little](#), [Less/little](#), [Rarely](#), [Scant/scanty/scarce](#), [Scarcely/scarcity](#)

ALERT Check that **rare** is the intended word

To date there has been **rare** research on this topic

ERROR *Syntax*: **research is not** rare, **reports** of it are

CORRECT by

replacing **rare** by **little**

To date there has been **little** research on this topic

replacing **research** by **reports**

To date there **have** been **rare reports** on this topic

using **rare research** as a **plural noun** modifier

To date there **have** been **rare research reports** on this topic

Live

See: [Alive/live](#)

Loath/loathe

loath (loth) adjective to be reluctant or unwilling to do something
loathe verb to have a dislike of, or aversion to, something

He was **loth/loath** to admit that he disliked operating on mice
He **loathed** mice

Loc. cit./op. cit. (Latin)

loc. cit. abbreviation of **loco citato** in the place already cited
the **source** is listed in the **immediately preceding** reference
in the **same location**

a **duplicate** reference ²⁶Cooper TG 'The Epididymis, Sperm Maturation and Fertilisation' (Springer, Berlin, 1986), p.23

²⁷*loc. cit.*

op. cit. abbreviation of **opero citato** in the work already cited
the **source** is listed in the **immediately preceding** reference
in a **different location**

a **different** reference ²⁶Cooper TG 'The Epididymis, Sperm Maturation and Fertilisation' (Springer, Berlin, 1986), p.23

²⁷*op. cit.* p.231

See: [cf./q.v.](#), [Ibid./id.](#), [sc./viz.](#), [Vide/vide infra/supra](#)

Localisation/location

localisation the fact of being located in a particular place
location a particular place or position

Selective **localisation** of drugs un tumour tissue is important in cancer therapy
The **location** of the acrosome is the sperm head

Localise/locate

localise to be restricted to a specific area (the locality)
locate to discover a place where something is found (the location)

Immunofluorescent staining was **localised** in the equatorial region
Immunofluorescent staining was **located** on the sperm head

Logarithm

See: [Exponentiation/logarithms](#)

Logic/logical

logic noun reasoning conducted according to strict principles of validity
logical adjective according to the rules of logic or formal argument

The **logic** of his argument is faulty
Check the Discussion for consistency and **logical** structure

Look/look as if/look like

<i>look</i>	linking verb	to appear	takes a subject complement	She looks happy
	transitive verb	to observe	takes an object	I looked at the poster
<i>look as if</i>	the verb to look (linking verb) with the conjunctive phrase as if			
		to appear that	followed by a clause	It looks as if it is turning septic
<i>look like</i>	the verb to look (transitive verb) with the preposition like (in a certain manner)			
		to have the appearance of	followed by a noun	It looks like an epididymis

See: [As if/like](#), [As if/though](#)

ALERT Check that **like** *is not* used as a **conjunction**

It **looks like** I shall have to work over the weekend again

ERROR *Syntax*: **like** is used here as a **conjunction** joining two clauses

CORRECT by replacing **like** by a **as if** or **as though**

It looks **as if/as though** I shall have to work over the weekend again

Look/watch

<i>look</i>	to direct one's gaze in a specified direction	They looked through the microscope eyepiece
<i>watch</i>	to observe attentively over a period of time	They watched the movement of spermatozoa for signs of hyperactivation

Look at/on/over/through/up

<i>at</i>	to direct one's gaze in a certain direction	They looked at the person entering the door
<i>on</i>	to regard in a special way	Dr Cooper looked on the epididymis as the most important male organ
<i>over</i>	to inspect something to establish its merits	They looked over the surgical instruments to select those to purchase
<i>through</i>	to ignore someone by pretending not to see them	He glanced up but looked through me
<i>up</i>	to move one's head or eyes to gaze in a certain direction	She looked up as he entered the social room

Loose/loosen/lose

<i>loose</i>	verb	to set free, to release	The guard dogs were loosed after the thieves
	adjective	not tightly fitting	There is loose binding of charged proteins to the sperm surface
<i>loosen</i>	verb	to make less tight or firm	Loosen the screws holding the microscope condenser in place
		to make less strict or strong	He wished to loosen ties with the union
<i>lose</i>	verb	to be deprived of, to cease to retain, to mislay	The spermatozoon loses its acrosomal cap during zona penetration

ALERT Check that **loose** is used correctly

Once spermatozoa move out of the protective seminal plasma, they progressively **lose** protection against ROS

ERROR *Semantics*: protection cannot be tightly fitting

CORRECT by replacing **loose** by **lose**

Once spermatozoa move out of the protective seminal plasma, they progressively **lose** protection against ROS

Lot

adverb	a great deal, much (informal lots)	She played tennis a lot (lots) last year
pronoun	a large number or amount, a great deal (informal lots)	There are a lot (lots) of foreign students this year
noun	a particular group or set of people/things	It's just one lot of rich people stealing from another
	a batch of a product	The second lot of enzyme has a higher activity
	an item or set of items for sale at an auction	Nineteen lots failed to sell

Style: verbosity, can be shortened: replace by **many/much**, or be specific about the number/amount

See: [A/the lot of... is/are](#), [Lots of... is/are](#)

Lots is/are

<i>is</i>	lots itself is the subject	Lots is to be seen in the new facility
		There is lots to see in the new laboratory

Lots of... is/are

<i>is</i>	when what lots of refers to is singular	Lots of work needs to be done	[much work needs to be done]
<i>are</i>	when what lots of refers to is plural	Lots of methods are available	[many methods are available]

Low/lower

<i>low</i>	the absolute (positive) form of the adjective	
	used with comparative prepositional phrases	The speed of the treated spermatozoa was low compared with that of the controls
<i>lower</i>	the comparative form of the adjective	
	used with the conjunction than	The speed of the treated spermatozoa was lower than that of the controls

See: [Decreased/lower](#), [Higher/lower](#)

ALERT Check that the **comparative** *is not* used with phrases **implying comparison**

The values were **lower compared with/in comparison with** those of the controls

ERROR *Tautology*: as **lower** is a **comparative** adjective, and the prepositional phrases **imply a comparison**, one term is **superfluous**

CORRECT by using **one or the other**, not both, by

replacing **compared with/in comparison with** by **than**

The values were **lower than** those of the control

replacing **lower** by **low**

The values were **low compared with/in comparison with** those of the control

Lower number of

Style: verbosity, can be shortened: replace by **fewer**

Lowered

past participle of the transitive verb to lower

to make smaller in extent or number

indicates a causal relationship, with time or after some manipulation

followed by an **object**

active voice

Ornidazole **lowered** testicular tubule **diameters**

passive voice

Tubule **diameters were lowered** by ornidazole treatment

See: [Decreased/lower](#)

ALERT Check that **lowered is not** used for direct **comparisons**

Tubule diameters in the treated group were **lowered compared with/in comparison with** those of the controls

ERROR *Syntax*: participles **are not** used for direct comparison

CORRECT by

stating the **cause of the decrease**

Tubule diameters in the treated group were **lowered by ornidazole**

replacing **lowered** by **fell** and stating the **sequence of events**

Tubule diameters in the treated group **fell after ornidazole treatment**

Lumen/luminal/lumens/lumina/luminal

lumen noun the central cavity of a tubular or other hollow structure

SI unit for luminous flux (lm)

The **lumen** of the cauda epididymal tubule was cannulated

lumens the plural of lumen (flux)

This lamp produces 25 **lumens** of white light

lumina the plural of lumen (cavity)

The caput and corpus **lumina** were also cannulated

luminal adjective

The cannula was emptied to obtain epididymal **luminal** contents

See: [Back-formation](#), [International system of units](#)

Lumicrine

See: [Endocrine/exocrine secretion](#), [Neologisms](#)

Luminance

See: [Incandescence/luminance/luminescence](#)

Luminescence

See: [Incandescence/luminance/luminescence](#)

Lysated/lysed

lysed past participle of the verb **to lyse**

See: [Back-formation](#)

Lysation/lysis

lysis dissolution or destruction of cells

See: [Back-formation](#)

Made

to cause something to exist or come about, to bring about

NOTE *Overused word*: often used unnecessarily, replace by **what was made [or omit]**

Made a count

Style: verbosity, can be shortened: replace by **counted**

Made for/from/of

made for to be ideally suited for some person or event

The job description seemed to be **made for** her

made from something that has been transformed

The diet was **made from** ground meat and plant extracts

made of something that is still recognisable

The medium is **made of** sodium chloride in a phosphate buffer

Magnet/magnetic

magnet noun

The equipment houses a metal siphon that attracts the **magnets** in the beads, which are removed from the solution

magnetic adjective

The **magnetic** beads were retained in the siphon and thus removed from the solution

ALERT Check that **magnetic is not** used as a **noun**

Separation was achieved by **magnetic**-activated cell sorting

ERROR *Semantics*: the hyphenated double adjective makes no sense [activated by **magnetic** (an adjective)]

CORRECT by

replacing **magnetic** by **magnet**

Cells were separated by **magnet**-activated cell sorting

[sorting activated by **magnets**]

inserting a **noun** for **magnetic** to define

Cells were separated by **magnetic bead**-activated cell sorting [sorting activated by **magnetic beads**]

Magnification/scale bar

magnification

the process of being magnified, the action of magnifying something
the number (N) of times (x) larger than the original its image is (**xN**)
for a microscope

refers to the image on the retina for sperm motility

WHO recommends a **magnification** of **x200** or **x400**

[combining a x10 ocular with a x20 or x40 objective lens]

for sperm morphology

WHO recommends a **magnification** of **x1000**

[combining a x10 ocular with a x100 objective lens]

for Figures or micrographs

refers to the **original** photograph for x1000 the image is 1000x larger than the object displayed

a **1 cm** line on the micrograph represents **1 µm** on the original object

in the publication the submitted **image magnification** is **relevant**

a plate the **same size** as the submitted original will be **x1000**

a plate **twice the size** of the submitted original will be **x2000**

a plate **half the size** of the submitted original will be **x500**

scale bar

a **scale line** on a photo- or micro-graph of an object

whose **actual length** is made **equivalent to a certain length** of the object

a **1 cm** line on a micrograph may represent **1 µm** on the original object

[represents a **x1000** magnification]

in the publication the submitted **image magnification** is **irrelevant**

as the **scale bar** is magnified or reduced to the **same extent** as the object

See: [Microscopy](#)

Main verbs

the most important verb in a sentence, usually lexical

See: [Auxiliary/lexical verbs](#)

Major

important, serious or significant

NOTE *Vague word:* often used unnecessarily, replace by a **more specific** adjective [**or omit**]

Majority

the greater **number**

is not used for mass, quantity, volume

See: [A/the majority is/are](#), [A/the majority of... is/are](#), [Bulk/majority/most](#), [Majority/plurality](#)

ALERT Check that **majority** only refers to numbers

After the pipe burst, the **majority** of the laboratory was affected by flooding

ERROR *Syntax:* **majority** is used for **numbers not for** areas

CORRECT by **using** words related to **areas**

After the pipe burst, a **large part** of the laboratory was affected by flooding

After the pipe burst, the **greater part** of the laboratory was affected by flooding

Majority/plurality

majority the number of votes cast for a candidate who receives **more** than any other

and is more than 50% of the vote Candidate A (55%) won by a **majority** over B (25%) and C (20%)

plurality the number of votes cast for a candidate who receives **more** than any other

but is less than 50% of the vote Candidate A (45%) won by a **plurality** over B (35%) and C (20%)

Majority of

Style: verbosity, can be shortened: replace by **most**, or be specific about the number

See: [A/the majority of... is/are](#)

Make

a **lexical verb** to bring into being

followed by an **object**

She **made** a physiological saline **solution**

a **causative verb** to cause to act in a certain way

followed by a **full infinitive**

He was **made to pay** a fine for breaching the guidelines

See: [Causative/complex transitive verbs](#), [In order](#)

ALERT Check that **make** does not introduce confusion

Gels were **made to identify** differential protein spots in the DIGE gels

ERROR *Semantics:* **gels** are **insentient and cannot** be forced to identify protein spots

CORRECT by

replacing **to** by **in order to**

Gels were **made in order to identify** differential protein spots in DIGE gels

replacing to identify by for the purpose of identifying

Gels were **made for the purpose of identifying** the differential protein spots in DIGE gels

Make clear

to clarify	a comment	when the meaning may be unclear	with alternate words
	a solution	when it is turbid	with physical methods

Male

See: [Female/male](#)

Man

See: [Animal species classification, Human/man/Man/mankind/men](#)

Manifest/manifestate

manifest to show a quality by one's acts, to demonstrate

See: [Back-formation](#)

Manifest

adjective	clear or obvious to the eye or mind	She was chosen for her manifest ability to give a clear speech
verb	to show a quality by one's acts, to demonstrate	He manifested signs of severe depression
noun	a document listing a ship's contents, for the use of customs officers	His name was not on the passenger manifest

Manifold/manyfold

manifold	noun	a pipe or chamber branching into several openings	Gas is provided to several cell chambers via a manifold
	adjective	many and various (formal)	This could lead to manifold benefits for the infertile patients
manyfold	adverb	by many times	The treatment values exceeded those of the control manyfold

See: [Fold/folds](#)

ALERT Check that **manifold** is used correctly

Microwave radiation in the environment has increased **manifold** recently

ERROR *Syntax:* **manifold** is an **adjective** used to define a **verb**

CORRECT by **replacing manifold** by **manyfold**

Microwave radiation in the environment has increased **manyfold** recently

Mankind

See: [Animal species classification, Human/man/Man/mankind/men](#)

Manner

a way in which a things is done or happens

Many

quantitative adjective, general determiner

See: [Among many](#)

Many/many of

many	indefinite pronoun, quantitative determiner	Many students were present at the seminar
many of	partitive construction, quantitative determiner	Many of the students were present at the seminar

Style: **of the** is **unnecessary**, **many** alone is **sufficient**

Many/more/most

many	the absolute (positive) form of the adjective many used with comparative prepositional phrases	These cells have many vacuoles compared with/in comparison with those
more	the comparative form of the adjective many used with the conjunction than	These cells have more vacuoles than those
most	the superlative form of the adjective many used alone	These cells have the most vacuoles cells

See: [More as superior comparative](#)

ALERT Check that the **more** **is not** used with phrases **implying comparison**

There were **more** offspring **compared with/in comparison with** the control group

ERROR *Tautology:* as **more** is a **comparative** adjective, and the participial phrases **imply a comparison**, one term is **superfluous**

CORRECT by **using one or the other**, not both, by

replacing compared with/in comparison with by **than**

There were **more** offspring **than** in the control group

replacing more by **many**

There were **many** offspring **compared with/in comparison with** the control group

Many/much

many	adjective	large number of, not few, several
-------------	-----------	-----------------------------------

<i>much</i>	adjective	with count nouns and the plural large in amount, degree, size with mass nouns and the singular	Many students were present at the seminar
	adverb determiner pronoun	to a great extent, a great deal	Much discussion is anticipated after the talk There is too much Ca²⁺ in the medium Thank you so much He did so much research during his short stay The treated animals do not eat much

See: [Few/little](#), [Many/multiple/numerous/several](#), [Many a... is/are](#), [Many of... is/are](#), [Much/very](#), [Too many/much](#)

Many/multiple/numerous/several

<i>many</i>	a large but unspecified number, a lot of, numerous	She spoke many languages
<i>multiple</i>	having or involving several parts, elements or members	This unit specialises in multiple births He suffered multiple fractures Semen was collected as multiple fractions by the split-ejaculation
<i>numerous</i>	a large but unspecified number, a lot of [more than several]	He's complained about the air-conditioning on numerous occasions
<i>several</i>	more than two or three, not a lot of [less than numerous]	He has written several papers on that topic

See: [Determiners](#), [Few/several](#), [Multi-/pluri-](#)

ALERT Check that **multiple** is the correct word

Each donor provided **multiple** semen samples
ERROR *Syntax*: a complete semen sample is not of several parts
CORRECT by replacing **multiple** by **many**
 Each donor provided **many** samples

Many a... is/are

is what **many a** *refers to* (a **singular** noun) is the subject **Many a scientist has** tried to publish in Nature

Many is/are

are what **many** *refers to* (a **plural** group) is the subject Of the studies, **many have** shown relationships between tail length and speed

Many... is/are

are what **many** *refers to* (a **plural** group) is the subject **Many studies have** shown a relationship between tail length and speed

Many of... is/are

are what **many of** *refers to* (a **plural** group) is the head noun **Many of the media were** unable to support the cells in culture

Margin

the difference between two quantities [one value]
 The effect of quinine (a 5% increase) exceeds that of 4-AP (2%) by a **margin** of 3%

See: [Interval/range](#)

Marginal

near a lower or upper limit, or near book margins His copy was littered with **marginal** notes
 not central, minor, not of major importance His work was of **marginal** importance in the field
does not mean small, slight

Marginally

barely, just, slightly

Mass nouns

See: [Count/mass nouns](#)

Masterful/masterly

<i>masterful</i>	powerful and able to control others	He spoke in a masterful tone of voice
<i>masterly</i>	worthy of the master of a skill, performed skilfully, masterly with the skill of a master, very accomplished	She demonstrated her masterful assessment of the technical difficulties We were conversant with his masterly account of epididymal function

Material/materiel

<i>material</i>	the matter from which a thing is or can be made things needed for an activity cloth	The store room holds highly flammable material Make sure you have the relevant cleaning material Lay the exposed epididymis on the sterilised surgical material covering the wound
<i>materiel</i>	military materials and equipment	We deploy medical units with required materiel and equipment in the war zone

Materialised

arrived, happened, occurred

NOTE *Overused word*: often used unnecessarily, replace by **what materialised** [or omit]

Mating

non-finite forms of the verb to mate
 a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Breeding/caging/mating](#), [Gerunds/participles](#), [Position of modifiers](#)

ALERT Check that **mating** refers to the **intended word**

Homozygous offspring were born six weeks after **mating**

ERROR *Semantics*: ambiguous, dangling participle, **mating** is a participle (verbal adjective) and **offspring** is the nearest noun it can complement **so this implies** that the **offspring** had been mating

CORRECT by

being more specific by mentioning their **parents**

Homozygous offspring were born **six weeks** after **the mating** of heterozygous males with wild-type females

rewriting the sentence and **omitting mating**

Heterozygous males were provided with two wild-type oestrous females and homozygous offspring were born **six weeks** later

Matrices/matrixes

matrixes the plural of matrix

Maturate/mature

mature verb to become or cause to become developed
adjective being developed

See: [Back-formation](#)

Matured/matured

matured past participle of the verb **to mature**

See: [Back-formation](#)

Maximal/minimal

maximal constituting a maximum, as great or as large as possible We travelled at the **maximal** speed all the way
does not mean large

minimal of a minimum amount, quantity or degree, negligible The equipment suffered **minimal** damage during transit
does not mean small

Maximise

to increase to the utmost amount or degree
does not mean increase

Maximum/minimum

maximum a superior superlative adjective
the highest or largest value of a given variable, a single value The **maximum** score ever awarded was 95%

minimum an inferior superlative adjective
the lowest or smallest value of a given variable, a single value The **minimum** score for passing is 40%

See: [A/the maximum is/are](#), [A/the maximum of... is/are](#), [A/the minimum is/are](#), [A/the minimum of... is/are](#)

May

a **modal auxiliary** verb followed by a **base infinitive**

for all persons, singular/plural

for assumptions

We **may assume** that epididymal osmolytes are loaded into spermatozoa
[there is evidence for the assumption]

for permission

He **may inject** the animals to increase hormone concentrations
[because he has a licence]

to be permitted to for politeness

May I borrow some paperclips?
[there is **no doubt** there are some]

May I have the keys?
[less hesitant than **might**]

for possibilities

I **may do** it tomorrow
[more certain than **might**]

in forming the **conditional** mood

in simple sentences

More attention to detail **may prevent** the rejection of the paper
[rejection **can yet be** prevented]

in the [main, consequence] clause of **conditional** sentences that **may be true**

with the **declarative** in the (subordinate, conditional) clause

[I **may try** it] (if it **is** possible)
[I **may hear** you] (if you **are** close)

in forming the **subjunctive** mood

with **inflected** verb-forms

for wishes

May the best man win

in adverbial clauses **of purpose**

with the **future declarative** in the [main] clause

[He **will say** nothing] (in order that he **may not be punished**)

with the **present declarative** in the [main] clause

[She **is telling** everyone] (in order that everyone **may know** the facts)

with the **past declarative** in the [main] clause

[He **worked** hard] (so that he **may become** an engineer)

See: [Auxiliary verbs](#), [Idiomatic word usage](#), [Might](#), [Moods of verbs](#), [Negation of verbs](#)

May/might

may	for politeness for possibilities in direct speech	simple future tense future perfect tense	May I have the keys? [less hesitant than might] I may do it tomorrow [more certain than might] "I may do it tomorrow" "She may have finished it by then"
might	for politeness for possibilities in indirect speech	future-in-the-past future perfect-in-the-past	Might I have the keys? [more hesitant than may] I might do it tomorrow [less certain than may] I said, "I might do it tomorrow" I said, "She might have finished it by then"

May/need not

may not	when may implies permission may not is the negative form	He may inject the animals to increase hormone concentrations [because he has a licence to do so] He may not inject the animals to increase hormone concentrations [because he has no licence]
need not	when may implies an assumption need not is the negative form	We may assume osmolytes are taken up by spermatozoa [there is good evidence] We need not assume osmolytes are taken up by spermatozoa [we need not make the assumption]

May be/maybe

may be	a modal auxiliary verb	before a main verb	This may be done if permission is first granted
maybe	adverb	it may be that, perhaps, possibly	I am not sure, but maybe the technician can do it today

Me

See: [I/me](#)

Me/myself

me	1 st person singular objective (object) case	They gave the prize to me
myself	1 st person singular reflexive form used by speakers to refer to themselves as objects of a verb or preposition I personally, for emphasis	I cut myself during the surgery I wrote it myself

ALERT Check that **myself** is only used reflexively

The committee will consist of the Dean, the Director and **myself**
ERROR *Syntax: **myself** has nothing to refer back to*
CORRECT by **replacing *myself* by *me***
 The committee will consist of the Dean, the Director and **me**

See: [Intensive/reflexive genitive pronouns](#)

Meaningful

having meaning

NOTE *Vague word:* often used unnecessarily, replace by a **relevant alternative [or omit]**

Meantime/meanwhile

meantime	adverb (conjunctive) at the same time, in the intervening period of time, in the meanwhile, meanwhile Start the glucosidase incubation, meantime start the zinc assay
meanwhile	adverb (conjunctive) at the same time, in the intervening period of time, in the meanwhile, meantime Start the glucosidase incubation, meanwhile centrifuge the next batch of samples on the other hand, whereas One of my students decided to do a PhD, the other, meanwhile , decided to leave science altogether

See: [A/the while](#), [While/whilst](#)

Measure/measurement

measure	verb	to ascertain the size, amount or degree of something to assess the importance, effect or value of something	The volume of semen is first measured It is hard to measure how important his work is
	noun	a plan of action taken to achieve a particular purpose an indication of degree, extent or quality	To save money, the department instituted cost-cutting measures His resignation is a measure of how angry he is
measurement	noun	the action of measuring something	Accurate measurement is essential

Measurement numbers

See: [Counting/denominate/measurement numbers](#)

Measurement/s of... was/were performed

Style: verbosity, can be shortened: replace by ... **was/were measured**

Mechanic/mechanical/mechanics

mechanic	noun	a skilled technician	He is training to be a mechanic
mechanical	adjective	operated by or relating to machines or machinery	The vortexer is a simple mechanical device
mechanics	noun	the plural of mechanic the machinery or working parts of something a branch of applied mathematics, physics	The mechanics arrive at 14:00 The mechanics of the equipment is complex Mechanics deals with motion and forces producing motion

Mechanics is/are

<i>is</i>	for the proper noun	with no article	is a plural noun treated as <i>singular</i>	Mechanics is a branch of physics
<i>are</i>	for the common noun	with an article	is a plural noun	The mechanics are going to repair the work

Mechanics of... is/are

<i>is</i>	mechanics is a plural noun treated as <i>singular</i> mechanics itself is the head noun	The mechanics of the engines <i>is</i> complex
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Media/medium/mediums

<i>media</i> (Latin)	plural of medium	relating to news coverage (in papers, on TV, internet) incubation solutions
<i>medium</i> (Latin)	singular of media	relating to news coverage (in papers, on TV, internet) an incubation solution a mediator of spiritualism (a spiritualist)
<i>mediums</i>		plural of medium (a spiritualist)

Median

See: [Mean/median/mode](#)

Medium

See: [Media/medium/mediums](#)

Meet/meet with

<i>meet</i>	to arrange to come into the presence of someone	We plan to meet him after the seminar
<i>meet with</i>	something to receive a particular reaction someone to have a meeting with	I'm sorry the results do not meet with your approval He met with the Dean last week

Meet together

Pleonasm: as **meet** implies coming together, **together** is *superfluous*: use **meet**

Meet up with

Style: verbosity, can be shortened: unnecessary phrasal verb: use **meet**

See: [Light/phrasal verbs](#)

Melt

See: [Dissolve/melt](#)

Melting

See: [Freezing/melting/thawing](#)

Men

See: [Animal species classification](#), [Human/man/Man/mankind/men](#)

Menstruation/mensuration

<i>menstruation</i>	the discharging blood and cells from the uterine lining every lunar month from puberty until menopause except during pregnancy
<i>mensuration</i>	measurement The CASA manual's section on mensuration needs to be updated

Memo/memoes/memos

<i>memo</i>	abbreviation of memorandum (singular)
<i>memos</i>	abbreviation of memoranda (plural)

Merely

just, only

See: [Position of adverbs](#)

Merge together

Pleonasm: as **merge** means bringing **together**, use **merge**

Metabolisation/metabolism

<i>metabolism</i>	noun related to the verb to metabolise
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See: [Back-formation](#)

Metaphor/simile

<i>metaphor</i>	making an implicit <i>figurative</i> comparison of two unlike things that have something in common by stating that one thing <i>is</i> the other	His semen was treacle	(figure of speech)
<i>simile</i>	making emphatic an <i>implicit</i> or <i>explicit</i> comparison of two unlike things that have something in common by using a discontinuous coordinating conjunction preposition	His semen was as viscous as treacle His semen was like treacle	(figure of speech)

See: [Figuratively/literally](#), [Figure of speech](#), [Rhetoric/rhetorical/rhetorical question](#)

Method/methodology

<i>method</i>	a particular procedure for a process	She used a flow cytometric method for determining cell size
<i>methodology</i>	the study or system of methods	His thesis began with a review of the methodology used for assessing sperm motility

ALERT Check whether **methodology** is the **intended word**

The **methodology** used in this study included western blots, immuno-cytochemistry and immuno-histochemistry

ERROR *Semantics:* methodology is **the study** of methods, **not** the methods themselves

CORRECT by **replacing methodology** by **methods**

The **methods** used in this study included western blots, immuno-cytochemistry and immuno-histochemistry

Methodical/methodological

<i>methodical</i>	done according to a systematic procedure	He used a methodical approach to evaluate the epididymal proteome
<i>methodological</i>	relating to methods used in a particular area of study	He found methodological problems in her studies of epididymal proteins

Meticulous/punctilious/scrupulous

<i>meticulous</i>	showing great attention to detail, very careful and precise, punctilious, scrupulous.
<i>punctilious</i>	showing great attention to detail or correct behaviour, meticulous, scrupulous
<i>scrupulous</i>	careful, thorough and extremely attentive to details, meticulous, punctilious

Meter/metre

<i>meter</i>	a machine for measuring	The laboratory is equipped with a pH meter , flow cytometer and osmometer
<i>metre</i>	a unit of measurement (m)	The student was 1.7 metres tall

Metre/yard

<i>metre</i>	the fundamental unit of length in the metric system equal to 10 dm [100 cm, 1000 mm]	1 metre = 3.28 feet [39.37 inches]
<i>yard</i>	a unit of linear measure in the Imperial system equal to 3 feet [36 inches]	1 yard = 0.91 metre

See: [International/nautical/sea mile](#), [International system of units](#)

Metre square/metre squared/metres square/square metre/square metres

<i>metre square</i>	the area of a square of sides 1 metre	1 m x 1 m = 1 m ²	≡ 1 square metre
<i>metre squared</i>	a unit of area (m ²)		
<i>metres square</i>	plural of metre square for 2 metres square	2 m x 2 m = 4 m ²	≡ 4 square metres
<i>square metre</i>	the area of a square of sides 1 metre	1 m x 1 m = 1 m ²	≡ 1 metre square
<i>square metres</i>	plural of square metre for squares of sides >1 metre	5 m x 5 m = 25 m ²	≡ 25 square metres
	for rectangles of sides >1 metre	4 m x 3 m = 12 m ²	≡ 12 square metres

NOTE a value in **metre squared** (a **unit**) is the same value in **square metres** (an **area**)

NOTE **square metres** *is not* the same as **metres square**

16 square metres	is the area of a square of sides 4 m	4 m x 4 m = 16 m²	[16 metre squared]
16 metres square	is the area of a square of sides 16 m	16 m x 16 m = 256 m²	[256 metre squared]

See: [Chi-square/squared](#), [Cubed/squared](#)

mg is/are

<i>is</i>	when the entire amount is considered as one portion added together as a single aliquot	2 mg RNA was directly added to the tube
<i>are</i>	when the entire amount is considered as individual portions added intermittently as many aliquots	80 mg RNA were added to the tube in 2 mg aliquots

See: [Aliquant/aliquot](#), [ml is/are](#)

Mice/mouse/mouses/murine

<i>mice</i>	noun	plural of mouse (the murid rodent, handheld computer device)	We evaluated gene expression in the epididymides of mice He had two laptops and three computer mice
<i>mouse</i>	noun	a member of the murid rodent family (rats and mice) a handheld computer device	We evaluated gene expression in the epididymis of the mouse She had a cable-free Wi-Fi computer mouse
	adjunct	relating to members of the murid rodent family (rats and mice) used when both rats and mice are being studied	We study gene expression in the rat and mouse epididymis The mouse epididymis was divided into 8 segments, the rat 5 She had two laptops and three computer mouses
<i>mouses</i>	noun	(informal) plural of mouse (the handheld computer device)	
<i>murine</i>	adjunct	relating to members of the murid rodent family (rats and mice) used when only mice or rats are being studied	We evaluated gene expression in the murine epididymis The murine epididymis was divided into eight segments

See: [Latin adjectives](#)

Micrometer/micrometre

<i>micrometer</i>	a device for measuring length
<i>micrometre</i>	a unit of length (µm) [10 ⁻⁶ m]

See: [Microscopy](#), [Prefixes for decimal multipliers](#), [µm/µM/µmol](#)

Microscope/microscopic/microscopical/microscopy

<i>microscope</i>	noun	an optical instrument for viewing small objects
<i>microscopic</i>	adjective	so small as to be visible only with a microscope
<i>microscopical</i>	adjective	relating to or requiring a microscope
<i>microscopy</i>	noun	a method, the use of a microscope

Spermatozoa were examined with a **microscope**
 Spermatozoa are **microscopic**
Microscopic particles were seen among the spermatozoa
 We designed a **microscopical** study of sperm movement
 The acrosome reaction was assessed by light **microscopy**

See: [Microscopy](#)

ALERT Check that **microscopic** is the intended word

This thesis includes a **microscopic** study of sperm movement

ERROR *Semantics*: this implies that the **study** was **visible only** with a microscope

CORRECT [if the **sperm movement** requires a microscope to be observed] by

replacing **microscopic** by **microscopical**

This thesis includes a **microscopical** study of sperm movement

Figure 1. Electron **microscopy** of dendritic cells in the epididymis

ERROR *Syntax*: **microscopy** is a **method** but only the photographic **results** can be presented in a Figure

CORRECT by replacing **microscopy** by **micrographs**

Figure 1. Electron **micrographs** of dendritic cells in the epididymis

Microvillar/microvillous

microvillous the adjectival form of microvillus

Microvilli/microvillous/microvillus

<i>microvilli</i>	plural noun	all the minute projections from the cell surface
<i>microvillous</i>	adjective	covered with microvilli
<i>microvillus</i>	singular noun	each of the minute projections from the cell surface

The principal cells have **microvilli** but clear cells do not
 The **microvillous** surface incorporates GPI-anchored proteins
 The surface of the **microvillus** has GPI-anchored proteins

See: [Cilia/flagella/microvilli](#)

Midday/midnight

See: [a.m./p.m.](#)

Middle

See: [Centre/middle](#)

Might

a **modal auxiliary verb** followed by a **base infinitive** or a **participle**

for all persons, singular/plural

to be permitted to for politeness
 for possibilities

Might I have the keys?
 I **might do** it tomorrow

[more hesitant than **may**]
 [less certain than **may**]

in forming the **conditional** mood
 in simple sentences

A little more attention to detail **might have prevented** the rejection of the paper
 [the rejection **has not been** prevented, but **had things been different** they could have been]

in the [main, consequence] clause of **conditional** sentences that **may not be true**

with the **subjunctive** in the (subordinate, conditional) clause

[I **might try** it] (if it **were** possible)

[I **might have heard** you] (if you **had been** close)

in forming the **subjunctive** mood

imperfect subjunctive

with the **past declarative** in the [main] clause

in (subordinate) adverbial clauses **of intention**

[She **was** afraid] (that her husband **might desert** her)

in (subordinate) adverbial clauses **of purpose**

[She **said** nothing] (in order that she **might not be punished**)

[She **told** her story] (in order that everyone **might know** the facts)

[He **worked** hard] (so that he **might gain** promotion)

See: [Auxiliary verbs](#), [May](#), [May/might](#), [Modal/non-modal/quasi-modal verbs](#), [Moods of verbs](#)

Mile

See: [International/nautical/sea mile](#), [Knot](#)

Militate/mitigate

militate to proclaim against a conclusion

The evidence **militated** against the manuscript's being authentic

mitigate to alleviate, to attenuate, to moderate

Palliative treatment is intended to **mitigate** suffering of terminally ill patients

min/mins

min abbreviation of **minute** and **minutes**

Mind

to be distressed, annoyed or worried by

often with the negative

followed by a

gerund

He doesn't **mind changing** the medium on Sunday

		I don't mind his <i>humming</i> while he works
	noun	I don't mind <i>the rain</i>
	noun clause	I do mind <i>that he has not finished his manuscript yet</i>
	pronoun	Don't mind <i>her</i> , she's just upset
not followed by an	infinitive	

Mingle together

Pleonasm: as **mingle** implies coming together, **together** is *superfluous*: use **mingle**

Minimal

See: [Maximal/minimal](#)

Minimise

to decrease to the smallest possible amount or degree Adhering to the regulations should **minimise** accidents in the laboratory
does not mean decrease, lessen, reduce

Minimum

See: [Maximum/minimum](#)

Minority

the smaller **number**
not used for mass, quantity, volume

Minority of

Style: verbosity, can be shortened: replace by **few**

See: [A/the minority is/are](#), [A/the minority of... is/are](#)

Minus/plus

<i>minus</i>	adjective	below zero, negative rather worse than	(before a number) (after a grade)	Minus five degrees C minus (C-)
	noun	short for minus sign a disadvantage		Negative integers have a minus written before them His failure was definitely a minus
	preposition	an operation of subtraction with the subtraction of	(mathematics)	Minus is a binary operation on two numbers Six minus four is two
<i>plus</i>	adjective	below zero by above zero, positive	(of temperature) (before a number)	Minus 40 degrees centigrade Sterilise at plus 60 degrees Celsius
		rather better than at least	(after a grade) (after a quantity)	He got B plus (B+) Companies put losses at \$500,000 plus
	noun	short for plus sign an advantage		Positive integers may have a plus written before them Knowing the language is a decided plus
	preposition	an operation of addition with the addition of above zero by	(mathematics) (of temperature)	A minus and a plus make another minus Two plus four is six The temperature is often plus 35 degrees at midday

See: [Mathematical comparators/operators](#), [Minus sign](#), [Negative/minus with numbers](#), [Plus sign](#)

Minute

See: [Instant/minute/moment](#), [Pronunciation and semantics](#)

Minutiae (Latin)

precise or trivial details

Minutiae is/are

are **minutiae** is a **plural** word In his thesis the **minutiae** of the methodology **were** copied exactly

Mischievous/mischievous

<i>mischievous</i>	adjective from the noun mischief			
		of people	showing a fondness for causing trouble playfully	They are only mischievous children
		of a statement	intended to cause harm or trouble	A mischievous allegation for which there is no evidence

Miss

verb followed by a **gerund not** an **infinitive** I **miss** *working* in the laboratory

Miss/miss out/miss out on

<i>miss</i>	to fail to hit, reach or come into contact with	She missed her target of three manuscripts a year
	to fail to notice, hear or understand	You've missed the whole point of the seminar
<i>miss out</i>	to fail to include, to omit	I missed out the albumin from the buffer
	not to be able to take advantage of an opportunity	If you have not read Cooper's book, you are missing out
<i>miss out on</i>	unnecessary phrasal verb	
	as miss out means fail to take advantage of , it needs no additional prepositions (on) after it	

See: [Light/phrasal verbs](#)

Missing

See: [Lacking/missing](#)

Mist/steam

mist	a condensed vapour settling in fine droplets on a surface	When he left the cold-room his glasses became covered in mist
steam	the invisible gaseous form of water, formed by boiling	The steam from the water bath condenses on its lid

See: [Gas/vapour](#)

Mistake

See: [Error/mistake](#)

Mitigate

See: [Militate/mitigate](#)

Mitosis/meiosis

mitosis (**equational** division of **somatic** cells)

- maintains** the **ploidy** (N: no. of chromosome sets) and **DNA content** (C) of the parent cell in the daughter cells
- in humans **diploid** (2N) cells contain **23 pairs** of **homologous** chromosomes (23 **paternal** P & 23 **maternal** M)
- G1 phase: the **diploid** cell grows **2N:46(23P & 23M)/2C**
- interphase S: chromosomal DNA replication [to two sister P, M chromatids] **double diploid** **2x2N:2x46(23P & 23M)/4C**
- G2 phase: cell prepares for division
- mitosis** (**segregation** of **sister chromatids**)
- prophase: metaphase spindles form
- metaphase: both sister P, M chromatids **align** at the **equator**
- anaphase: both sister P, M chromatids **separate** and move to **opposite** poles [**disjunction**]
- telophase: both sister P, M chromatids **gather** at **opposite** poles
- cytokinesis: production of **two diploid** cells [each with a P & M chromosome] **2N:46(23P & 23M)/2C**

meiosis (**reduction** division of **reproductive** cells)

- reduces** the **ploidy** (N: no. of chromosome sets) and **DNA content** (C) of the parent cell in the daughter cells
- in humans **diploid** (2N) cells contain **23 pairs** of **homologous** chromosomes (23 **paternal** P & 23 **maternal** M)
- G1 phase: the **diploid** primordial germ cell grows **2N:46(23P & 23M)/2C**
- interphase S: chromosomal DNA replication [to two sister P, M chromatids] **double diploid** **2x2N:2x46(23P & 23M)/4C**
- bivalents**: the **two** homologous **chromosomes** (one P, one M) attached to one centromere
- dyads**: the **two sister chromatids** formed from **one** chromosome (P dyads or M dyads)
- tetrads**: the **four chromatids** (**two dyads**) formed from **both** chromosomes (P & M)

meiosis I (**segregation** of **homologous chromosomes**)

- prophase I: metaphase spindles form, **non-sister (P & M) chromatids** exchange genetic material (**crossing over**)
- metaphase I: **both** homologous P, M chromatids **align** at the **equator**
- anaphase I: homologous P, M chromatids **separate** and move to **opposite** poles [**disjunction**]
- telophase I: **separate** homologous P, M chromatids **gather** at **opposite** poles
- cytokinesis: production of **two double haploid** cells [each with **two P** or **two M** chromatids] **2x1N:2x23(2x23P or 2x23M)/2C**

meiosis II (**segregation** of **sister chromatids**) [haploid cell mitosis]

- prophase II: metaphase spindles form
- metaphase II: **both** P, M chromatids **align** at the **equator**
- anaphase II: **each** P, M chromatid **moves** to **opposite** poles [**disjunction**]
- telophase II: **each** P, M chromatid **gathers** at **opposite** poles
- cytokinesis: production of **two haploid gametes** [each with **one P** or **one M** chromosome] **1N:23(23P or 23M)/1C**
- at fertilisation male and female pronuclear fusion forms a **diploid** zygote **2N:46(23P & 23M)/2C**

See: [Chromosome/chromatid](#), [Gametogenesis](#), [Ploidy](#), [Spermato-/spermatocyto-spermatido-spermio-genesis](#)

Mix together

Pleonasm: as **mix** implies bringing together, **together** is **superfluous**: use **mix**

Mixing

- non-finite forms of the verb to mix
- a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Gerunds/participles](#), [Position of modifiers](#)

ALERT Check that **mixing** has a **relevant noun** to qualify

After thorough **mixing**, the samples were transferred to a Neubauer haemocytometer chamber

ERROR **Semantics**: **mixing** is a participle (verbal adjective) and **samples** is the nearest noun it can complement
so this implies that the **samples** did the mixing

CORRECT [if the mixing was done by a **technician**] by
inserting **an article** to change the **participle** to a **gerund**

After a thorough **mixing**, the samples were transferred to a Neubauer haemocytometer chamber

replacing **thorough mixing** by **being thoroughly mixed**

After **being** thoroughly **mixed**, the samples were transferred to a Neubauer haemocytometer chamber

rewriting **the sentence** with the **passive**

After the **samples were mixed** thoroughly, **they** were the samples were transferred to a Neubauer haemocytometer chamber

ALERT Check that **stained is not** used with words meaning **staining**

The slides were **stained** by PAS **staining**

ERROR **Tautology**: as **staining** causes things to be **stained**, one word is **superfluous**

CORRECT by **using one or the other**, not both, by
omitting **staining**

The slides were **stained** by PAS

replacing **stained** by **processed**

The slides were **processed** by PAS **staining**

ml/mL

abbreviation of millilitre the International system of unit is either **ml** or **mL**

L was introduced to prevent confusion of **l** (lower case **L**) with **l** (capital **i**) and the numeral **1** (**one**)

NOTE the use of **ml** or **mL** is dictated by journal style

See: [International system of units](#)

ml/ml of

ml Four **ml** 3% (v/v) H₂O₂ was added to 15 **ml** BWW buffer

ml of 4 **ml of** 3% (v/v) H₂O₂ was added to 15 **ml of** BWW buffer

Style: **of** is **unnecessary**, **ml** alone is **sufficient**

ml is/are

is when the entire volume is considered as **one** portion

added together as a **single** aliquot **80 ml** water **was** directly added to the stock solution

are when the entire volume is considered as **individual** portions

added intermittently as **many** aliquots **80 ml** water **were** added in 2 ml aliquots, with mixing, to the stock solution

See: [Aliquant/aliquot](#)

mm/mM/mmol

mm millimetre a distance (10⁻³ metre)

mM millimolar a concentration (millimoles per l)

mmol millimole an amount (10⁻³ mole)

ALERT Check whether **concentration** or **amount** is meant

(graph ordinate label) Concentration (**mM/l**)

ERROR **Syntax**: **mM** is a concentration (mmoles per litre), which cannot be expressed **per litre**

CORRECT by

replacing **mM** by **mmol**

Concentration (**mmol/l**)

omitting **litre**

Concentration (**mM**)

Modality

a **particular mode** in which something exists, is experienced or is expressed

NOTE **Vague word**: often used unnecessarily, replace by **what the modality is [or omit]**

diagnosis (**not** diagnostic **modality**) therapy (**not** therapeutic **modality**) treatment (**not** treatment **modality**)

Mode

a manner in which something occurs done

His preferred **mode** of travel to the campus was the Mass Transit Railway

an option allowing a change in operational method

The camera was set to motion-detector **mode** to be triggered by objects entering the field

in mathematics a modal value

Compare the mean, median and **mode** of the populations

in grammar another word for mood

There are **modal**, **non-modal** and **quasi-modal** verbs

See: [Central limit theory/tendency](#), [Mean/median/mode](#), [Modal/non-modal/quasi-modal verbs](#)

Modifiers/determiners/adverbials

modifiers a **general** category of words that modify adjectives, adverbs, nouns, pronouns, verbs

include **adjectives, determiners, adverbials, nouns**

determiners a **specific** category of modifiers that determine the nature of **nouns, pronouns**

adverbials a **specific** category of modifiers that qualify **adjectives, adverbs, verbs**

See: [Adjectives](#), [Determiners](#), [Qualifiers/intensifiers](#), [Word modifiers](#)

Modifiers/modifier phrases/clauses

modifiers single words that **modify a sentence meaning** by **limiting** or **exaggerating** meaning

can be any part of speech

adjectives

adverbs

demonstratives

determiners

nouns

precede the words they modify

nouns

adjectives

adverbs

modifier phrases word groups lacking a finite verb that **act as modifiers**

can be any part of speech

absolute/adjectival/adverbial/infinitive/participial/prepositional phrases

occur **next to** the words they modify

nouns

modifier clauses word groups with a finite verb that **act as modifiers**

can be any part of speech

adjective/adjectival/adverb/adverbial clauses

occur **next to** the words they modify

nouns

See: [Clauses](#), [Phrases](#), [Qualifiers/intensifiers](#), [Word modifiers](#)

Modulate/regulate

modulate exert a modifying or controlling influence upon
regulate control or maintain the rate or speed of a process

In turn, this **modulates** the regulatory systems controlling spermatogenesis
 The enzyme **regulates** carbohydrate metabolism

Modulated negatively/positively

Style: verbosity, can be shortened: replace by **inhibited/augmented**

Modus operandi (Latin)

from way of operating

a particular method of doing something
 a particular actions

Every surgeon has his own special **modus operandi**

The **modus operandi** of post-testicular contraceptives differs from those raising hormones levels

Molality/molarity/normality

molality concentration of **solute** in moles per kg solvent (mol/kg)
molarity (M) concentration of **solute** in moles per litre of solution (mol/l)
normality (N) concentration of **ions** in equivalents per litre of solution (Equ/l)
former terminology for molarity

Solvent measured in a **measuring cylinder**
Solution made up in a **volumetric flask**
Solution made up in a **volumetric flask**

See: [International system of units](#), [Normalcy/normality](#)

Molality/osmolality/osmolarity/tonicity

molality the concentration of **all solutes** in a fluid
prepared from known solute weights and solvent volumes
solvent volume measured in a **measuring cylinder** (moles per kg of **solvent**, mol/kg)
osmolality the **absolute** concentration of **osmotically active solutes** in a fluid
measured by depression of vapour pressure or freezing point (moles per kg **solvent**, mol/kg, **formerly** osmol/kg)
osmolarity a **calculated** concentration of **osmotically active solutes** in a fluid
prepared from known solute weights and solvent volumes
solution made up in a **volumetric flask** (moles per litre **solution**, mol/l, M)
tonicity the **relative** concentration of osmotically active solutes in a fluid and cell cytoplasm
 assessed by **changes in size of a cell** placed in it (relative size, hypo-/iso-/hyper-tonic)

See: [High ionic strength/hypertonic](#), [Hyper-osmotic/-tonic](#), [Hypo-osmotic/-tonic](#), [Hypotonic/low ionic strength](#), [International system of units](#), [Moles/osmoles](#)

Molar/molecular mass/weight

molar mass (m) **absolute** molar mass the mass of **one mole** of substance (g/mol; SI units kg/mol)
 the **mass** of a given **substance** (g) divided by the **amount** of a substance (mol)
 is a **bulk, not** molecular, property of a substance
 used for macroscopic (weighable) quantities of a substance
molecular mass (MM) **absolute** molecular mass the mass of **one molecule** in unified atomic mass units (u, dalton [Da])
 (1 amu = 1/12 the mass of ¹²C) [former symbol **amu**]
 is a **molecular, not** a bulk, property of a substance
molecular weight (MW) **relative** molecular mass (*M_r*) the **ratio** of the mass of one molecule to 1/12 the mass of ¹²C (dimensionless)

See: [Empirical/molecular formulae](#), [Formula/molecular mass](#), [Formula/molecular weight](#), [International system of units](#)

Moles/osmoles

moles the number of **molecules** in solution (unit mol) used in biology, chemistry, medicine, physics
osmoles the number of **osmotically active moles** in solution (unit mol, **formerly** osmol) currently used only in biology, medicine

See: [International system of units](#)

Moment

See: [Instant/minute/moment](#)

Momentarily/momentary/momentous

momentarily adverb **for** a moment, temporarily The power was interrupted **momentarily** before the fuse was changed
does not mean in a moment
momentary adjective lasting only a moment A **momentary** pause preceded the awards presentation
momentous adjective of great importance It was a **momentous** decision to award the medal to him

Money/time

money dollars **divisible** count noun used generally [abstract noun: currency] with **less** He has **less than 20 dollars**
 used as **indivisible** [concrete noun: dollar notes] with **fewer** I have **fewer than 10 dollars**
time hours **divisible** count noun used generally [not enough time] with **few** I spend **few hours** in the library
 used as **indivisible** [less time] with **fewer** I should spend **fewer hours** in the library

Mono-/uni-

mono- (Greek) one **monochrome** **monocular** **mononuclear**
uni- (Latin) one **unicellular** **unilateral** **university**

See: [Greek/Latin numerical prefixes](#), [Prefix list](#)

Mono-/uni-lateral

unilateral from the Latin **one** *not* Greek

See: [Prefix list](#), [Uni-lateral/-laterally](#)

Mono-transitive verbs

See: [Intransitive/transitive verbs](#)

Month by month

Style: verbosity, replace by **monthly/every month**

Moot/mute

<i>moot</i>	adjective	debatable, subject to debate, dispute and uncertainty having little or no practical relevance	The provision of osmolytes to maturing spermatozoa is a moot point The whole discussion is becoming increasingly moot
	verb	to raise for discussion	The topic was first mooted at the last meeting
<i>mute</i>	adjective	refraining from speech, silent	When questioned about the broken microscope he remained mute
	noun	device for deadening an instrument's sound a dumb person	The trumpeters used mutes in the first movement Obtaining the case history was difficult as he was a deaf mute
	verb	to deaden	Wear ear protectors when using the sonicator to mute the sound

ALERT Check that **mute** is the **intended word**

The idea of using membrane transporters for contraception has been **muted**
ERROR *Semantics: ideas* cannot refrain from speech
CORRECT by **replacing mute** by **moot**
 The idea of using membrane transporters for contraception has been **mooted**

More

adverb	providing the comparative form	of	adjectives adverbs	This paper requires more convincing data The spermatozoa are swimming more slowly than before
	to a greater extent	used with	verbs	He had more than made his mark in this field
determiner	quantitative	a greater number of	nouns	He knows more people than most of us [the opposite of fewer]
pronoun	indefinite	a greater degree of	verbs	He knows more than he appears to [the opposite of less]

More as superior comparative

superior comparative of the adjectives **fewer** and **less**

a larger **amount** of **indivisible** nouns

more... **mass** nouns

We earned **more money** this year
 You now have **more time** to finish the manuscript
 Use **more medium** on the younger cells
 There are **more spermatozoa** in the cauda epididymidis
 There are **more students** in the hostel

plural count nouns

plural quantifiers

We now have **more samples of** semen to handle
 Add **more drops of** acid to adjust the pH
 We now have **more choice than** before
 The volunteers have **more semen than** the patients
 It will cause **more trouble than** you think
 The fathers have **more spermatozoa than** the patients
 You've assayed **more samples of semen than** she
 Add **more drops of acid than** he did

more... [than] **mass** nouns

plural count nouns
plural quantifiers

a larger **number** of **divisible** nouns

more than... **denominate** numbers

currency
distances

He has **more than 20 dollars**
 The separation should be **more than 2 cm**
 We are **more than 500 yards** from the Institute
 Centrifuge at **more than 16,000g**
 Store at **more than 5°C**
 He stayed for **more than three years**
 He was elected in **more than two months**
 She was **more than 14 years old**
 Vortex for **more than 10 sec**
 Incubate in **more than 4 ml**
 They weigh **more than 20 g**

g-force
temperature
time

volume
weight

measurement numbers

fractions
percentages
proportions
rates
ratios

More than a third of students got top marks
More than 3% of people have been vaccinated
More than one in four students are eligible
 We practise grammar **more than twice a week**
 The male : female sex ratio was **more than 6:4**

counted quantifiers

Add **more than two drops of** acid to adjust the pH
 He provided **more than three samples of** semen

rounded numbers

More than 50,000 people attended
 The petition signers numbered **more than 100**

...more the number **one**

Write the abstract in **more than 250 words**
 Now I have **one more thing** to worry about
 Now I have **one thing more** to worry about

...more [than] the number **one**
 a **number**

We need three microscopes, not **one more**
 Mary has **one more child than** Kate
 Mary has **one child more than** Kate
 This box contains **three more than** the others

See: [Count/mass nouns](#), [Counting/denominator/measurement numbers](#), [Fewer/less/more](#), [Many/more/most](#), [More than one... is/are](#), [More than one noun/nouns](#), [The more... the less](#)

ALERT Check which meaning of **more** is intended

More solid evidence is needed to prove the presence of stem cells in the epididymis
ERROR *Semantics*: ambiguous, **it is unclear** which meaning of **more** is meant
 so **this could be interpreted as**
 a greater **amount** of **solid evidence** is needed [more as a **quantitative determiner** describing a **noun** (evidence)]
 or
 evidence of a greater **quality** is needed [more as an **adverb** describing an **adjective** (solid)]
CORRECT [if the **former** is meant] by
 inserting a **comma** to separate adjectives of equal importance
More, solid evidence is needed to prove the presence of stem cells in the epididymis
CORRECT [if the **latter** is meant] by
 replacing **more solid** by **better quality**
Better quality evidence is needed to prove the presence of stem cells in the epididymis

More and more

Style: informal, replace by **increasingly more**

More or less/more-or-less

more or less adverbial phrase speaking imprecisely, to a certain extent We know **more or less** how he came to these conclusions

More than/over

more than adverbial phrase to a greater extent than The lenses cost **more than** HK\$ 20,000
 defining an adjective or **past participle** He did **more than required**
does not govern a finite verb
over preposition above The fluorescent lamps are stored on the shelf **over** the microscope
does not mean more than

ALERT Check that **more than** governs an **infinitive**

He **more than** looked: he stared
ERROR *Syntax*: **more than** does not govern a finite verb
CORRECT by using **did** for emphasis and a **base infinitive**
 He **did more than look**: he stared

ALERT Check that **over** is not used to mean more than

The microscope costs **over** €100,000
ERROR *Syntax*: **over does not mean** more than
CORRECT by replacing **over** by **more than**
 The microscope costs **more than** €100,000

More than one... is/are

is **more than refers to the one** **More than one** scientist **has been** accused of fraud

More than one noun/nouns

noun **more than refers to the one** The project involves **more than one technique**

Moreover

See: [And moreover/moreover](#)

Morphology

a branch of Biology, the study of the forms of things
 a particular form, shape or structure

NOTE *Overused word*: often used **incorrectly** instead of normal morphology

ALERT Check that **morphology** is the **intended word**

The average percentage sperm **morphology** was significantly lower in the inner cities
ERROR *Semantics*: **morphology** can be normal or abnormal, so its average percentage has no meaning
CORRECT [if the **type** of morphology is meant] by
being specific
 The average percentage **normal sperm morphology** was significantly lower in the inner cities
 The average percentage **abnormal sperm morphology** was significantly greater in the inner cities

Morphology/morphometry

morphology the branch of Biology dealing with the form of living things

as participle in motion Take care as you cross: this is a fast-**moving** stream
 producing strong emotion, especially sadness or sympathy He has an unforgettable and **moving** history

Moving forward

Style: vogue words, unjustifiable neologism, replace by **from now on/henceforth/in the future**

See: [Neologisms](#)

ALERT Check that **moving forward** cannot be misinterpreted

Moving forward, the director said that the authorities should prioritise raising the vaccination coverage

ERROR *Semantics*: **moving forward** is a participial phrase (verbal adjective) and **the director** is the nearest noun it can complement so this implies that the **director** moved before speaking

CORRECT [if **motion** of the speaker is meant] by

adding the direction of motion

Moving forward to the microphone, the director said that the authorities should prioritise raising the vaccination coverage

CORRECT [if **future actions** of the authorities are meant] by

replacing moving forward by from now on, henceforth or in the future

From now on/Henceforth/In the future, the director said that the authorities should prioritise raising the vaccination coverage

Much

adverb	to a great extent, a great deal	Did it hurt much ?
determiner	a great amount or quantity of, often with the negative or query	I didn't get much sleep
pronoun	a great amount or quantity	The treated animals do not eat much

Much/very

<i>much</i>	adverb	describes an adjective	It was much fun
<i>very</i>	adverb	describes an adjective	It was very good
		describes an adverb	It was very much fun
		does not define nouns	

See: [Very](#)

ALERT Check that **very** is used to describe an adjective or adverb not nouns

It was **very** fun

ERROR *Syntax*: **very** is an **adverb**, which describes adjectives and adverbs **not** nouns

CORRECT by

replacing very by much

It was **much** fun

inserting an adjective for very to describe

It was **very much** fun

Much as

adverbial phrase even though **Much as** I had enjoyed the holiday, it was good to be back at work

Much is/are

<i>is</i>	as pronoun	much refers to an amount (a major part)	In the debate much was made about his resignation
			Of the limited discussion time, much was lost in coffee breaks

Much... is/are

<i>is</i>	as determiner	much refers to an amount (a major part)	Much discussion was about his resignation
			Much time was lost in endless meetings

Much of... is/are

<i>is</i>	much of is used for an amount (a major part)	Much of the electorate has yet to make up its mind
		Much of a scientist's time is taken up writing grants

Much less/more

<i>much less</i>	adverb defining an inferior comparative adjective abbreviation of much less is it so	He enjoyed the first manuscript much less than the second It is hard to like, much less [is it so] to prefer, the first manuscript
<i>much more</i>	adverb defining a superior comparative adjective abbreviation of much more is it so	She enjoyed the first manuscript much more than the second It is hard to like, much more [is it so] to prefer, the second manuscript

NOTE often confused and used incorrectly

See: [Ellipsis, Grammar/style](#)

ALERT Check that the use of **much less/more** gives the **intended meaning**

It is difficult to reduce, **much less** to eliminate, the amount of contamination

ERROR *Semantics*: this means it is **much less difficult** (i.e. **much easier**) to eliminate than to reduce the amount of contamination, which is counter-intuitive

CORRECT [if it is **more difficult** (i.e. **harder**) to eliminate than to reduce the amount of contamination] by

replacing much less by much more

It is difficult to reduce, **much more** to eliminate, the amount of contamination

It is easy to reduce, **much more** to prevent, the amount of contamination
 ERROR *Semantics*: this means it is **much more easy** (*i.e.* **much easier**) to prevent than to reduce the amount of contamination, which is counter-intuitive
 CORRECT [if it is **harder** (*i.e.* **less easy**) to prevent than to reduce the amount of contamination] by replacing **much more** by **much less**
 It is easy to reduce, **much less** to prevent, the amount of contamination

Mucous/mucus

<i>mucous</i>	adjective	covered with, producing, relating to, or the nature of, a mucus	The cervical lining is covered with a mucous membrane
<i>mucus</i>	noun	a viscous fluid	The cervix secretes cervical mucus

Multinational

See: [Global/inter-/multi-/supra-/trans-national](#)

Multi-/pluri-

<i>multi-</i>	much, many	[greater than pluri-] used in compound (hyphenated) adjectives	multi -lingual multi -faceted multi -lateral agreement	(able to speak many languages) (containing many different aspects, features, qualities) (agreed by all parties)
<i>pluri-</i>	more, several	[fewer than multi-] used in compound (hyphenated) adjectives	pluri -lateral agreement pluri -potent stem cells	(agreed by most but not all parties) (capable of giving rise to several different cell types)

See: [Many/multiple/numerous/several](#), [Prefix list](#)

ALERT Check whether **multiple** or **multi-** is required

Multiple studies have indicated that gonadotrophin treatment is effective in these cases
 ERROR *Semantics*: ambiguous, **it is unclear** whether **multiple** or **many** is intended
 so **this could be interpreted as**
 more than one study was done
 or
 the studies involved several parts

CORRECT [if the **former** is meant] by

replacing **multiple** by **many**

Many studies have indicated that gonadotrophin treatment is effective in these cases

CORRECT [if the **latter** is meant] by

replacing **multiple** by **multi-part**

Multi-part studies have indicated that gonadotrophin treatment is effective in these cases

Multiple

See: [Many/multiple/numerous/several](#)

Multiplication

See: [Mathematical comparators/operators](#)

Multiply/times

<i>multiply</i>	verb	to obtain from a number another containing it a given number of times	It is easy to multiply by ten; just add a nought Multiply ten by fourteen
	adverb	in several different ways or respects	This infertility is observed in multiply injured animals
<i>times</i>	verb	multiplied by (x)	Ten times fourteen is one-hundred-and-forty

See: [For](#), [Mathematical comparators/operators](#), [Spelling and semantics](#)

ALERT Check that **multiply** and **times** *are not* used together

Total sperm output is the **product of** semen volume x sperm concentration

ERROR *Tautology*: as **x (times)** means the **product of** multiplication, one word is **superfluous**

CORRECT by using **one or the other**, not both, by

replacing **x** by **and**

Total sperm output is the **product of** semen volume **and** sperm concentration

omitting **the product of**

Total sperm output is semen volume x sperm concentration

Total motile count was obtained by **multiplying** volume x concentration x the percentage of motile spermatozoa

ERROR *Tautology*: as **x (times)** means **multiplied by**, one word is **superfluous**

CORRECT by using **one or the other**, not both, by

replacing **x** by **by** and **and**

Total motile count was obtained by **multiplying** volume **by** concentration **and** the percentage of motile spermatozoa

replacing **by multiplying** by **from the formula**:

Total motile count was obtained **from the formula**: volume x concentration x the percentage of motile spermatozoa

Murine

See: [Latin adjectives](#), [Mice/mouse/mouses/murine](#)

Must/ought/should

must	a modal auxiliary modal verb followed by a base infinitive for duties, necessity, obligations: are obliged to
ought	a modal auxiliary modal verb followed by a full infinitive for duties, necessity, obligations: should for expectations: are expected, should
should	a modal auxiliary modal verb followed by a base infinitive for duties, necessity, obligations: ought to for expectations: are expected to, ought to

You **must follow** the instructionsYou **ought to sterilise** the bench before working on culturesYou **ought to finish** by lunch timeYou **should sterilise** the bench before working on culturesHe **should finish** by lunch timeSee: [Have/must](#), [Modal/non-modal/quasi-modal verbs](#), [Should](#)**Mutatis mutandis (Latin)**used when **comparing two or more cases** or situationsmaking **necessary alterations** while **not affecting** the main point at issueWhat is true of undergraduate teaching in England is equally true, **mutatis mutandis**, of American graduate schools**Mute**See: [Moot/mute](#)**Mutual**See: [Common/mutual/reciprocal](#)**Nanometre**See: [Ångström/nanometre](#)**Nature**

the basic or inherent features, character or qualities of something

He performed acts of a hostile **nature****NOTE** *Overused word*: often used unnecessarily [**omit**]**ALERT** Check whether **nature** is necessaryHe performed experiments of a dangerous **nature****STYLE** *Verbosity*: can be shortened**CHANGE** by **rewriting the sentence** and **omitting nature**He performed **dangerous** experiments**Naught/nought****naught** nothingHe failed: all his effort came to **naught****nought** zeroOne million: written as a one with six **noughts** after itSee: [Numbers](#), [Zero](#)**Nausea/nauseated/nauseous****nausea** noun a feeling of sickness with an inclination to vomitA wave of **nausea** engulfed those in the disinfected lab.**nauseated** adjective afflicted by nausea refers to **people****She** was **nauseated** by the smell of the disinfectant**nauseous** adjective causing nausea refers to **things**The **disinfectant** had a **nauseous** smellresponding to nausea refers to **people**The rancid odour made him **nauseous****Near**See: [Close/near](#)**Nearly**

very close to, almost

She has **almost** finished the manuscript**Nearly unique****not** unique, but one of a very **few** such itemsSee: [Absolute adjectives](#), [Unique](#)**Neat/raw/whole****neat** undilutedSperm motility was assessed in **neat** semen**raw** unprocessed, untreatedSperm motility was assessed in frozen-thawed and **raw** semen**whole** unfractionated, unseparatedSteroids were assessed in **whole** blood as well as blood plasma and serumSee: [Blood/plasma/serum](#), [Fluid/plasma](#)**Necessary/probabilistic arguments**See: [Deductive/inductive reasoning](#)**Necessary/sufficient****necessary** needed to be done, achieved or presentThe data suggest that for a successful outcome fewer treatments are **necessary**
[implies that more treatments than necessary are deleterious]**sufficient** an adequate amountThe data suggest that for successful outcome fewer treatments are **sufficient**
[implies that more treatments than sufficient **are not** deleterious]

See: [Crucial/necessary/obligatory](#), [Enough/sufficient](#)

Necessary prerequisite

Pleonasm: as **prerequisite** implies a need, **necessary** is *superfluous*: use **prerequisite**

See: [Perquisite/prerequisite](#)

Necessitate

to have to, to need, to require This approach **necessitates** fine suturing under illuminated magnification

See: [Dictate/necessitate/urge](#)

Need

a **quasi-modal** auxiliary verb

as lexical verb followed by **object**

as auxiliary verb followed by a **base or full infinitive**

to require something

to have the courage to

I **need** a *laboratory* to work in

He **needs to enter** the isotope lab.

He **needn't go** now

We **need not assume** it is true

for negation of **may** when implying an assumption We **may assume** it is true

See: [Auxiliary verbs](#), [Modal/non-modal/quasi-modal verbs](#)

Need for/of/to

need for need as noun followed by a **noun** After this incident we recognise that there is a **need for change**

need of need as noun followed by a **noun** They are in **need of assistance**

need to need as noun followed by a **full infinitive** There is no **need to cry**

need as verb followed by a **full infinitive** You **need to change** the medium over the weekend

Need/require

need

a **mass noun**

circumstances in which something is necessary, necessity
the state of requiring help, or of lacking basic necessities

We have an urgent **need** for an upgrade

Always consider those in their hour of **need**

a **lexical verb**

followed by an **object**

for necessity

For this dissection one **needs** very fine *forceps*

a **quasi-modal** auxiliary verb

followed by a **full infinitive**

for obligation, permission
for questions with **do**

He **needs to read** this review before starting work

Do I **need to change** the medium?

Do I **need to lock** the lab. after I leave?

You **need not change** the medium: I'll do it

You **need not lock** the lab. after you leave

Need I change the medium?

Need I lock the lab. after I leave?

followed by a **base infinitive**

for negatives

with subject/verb inversion

require

a **lexical verb**

to need for a purpose

followed by an **object**

You **require a license** before you can operate on animals

See: [Crucial/necessary/obligatory](#), [May/need not](#), [Negation of verbs](#)

Needless

unnecessary because avoidable

Needless to say

idiom it is so obvious that it is not worth saying, of course

Style: verbosity, often not needed to be said, **avoid**

See: [Cliché/idiom/proverb](#)

ALERT Check that the **usage** of **needless** is correct

Needless to say **that** he got the first prize

STYLE Syntax: incorrect idiom format

CHANGE by

replacing **that** with a **comma**

Needless to say, he got the first prize

inserting **it is**

It is needless to say that he got the first prize

Negative

consisting of or characterised by the absence, rather than the presence, of distinguishing features

NOTE Overused word: often used incorrectly and unnecessarily **[omit]**

See: [Negative/minus with numbers](#), [Negative/positive](#)

ALERT Check that the word **negative** makes sense

Other AK family members showed **negative** signals in the testis

ERROR *Semantics*: a **signal** is either present or not; it cannot be negative

CHANGE by replacing **negative** by **no**

Other AK family members showed **no** signals in the testis

replacing **showed negative** by **did not show**

Other AK family members **did not show** signals in the testis

omitting **showed negative** and inserting **were not observed**

Other AK family member signals **were not observed** in the testis

Negative/minus with numbers

<i>negative</i>	a description of values below zero (negative values)				
	written as a minus sign before the value	-1	-2	-3	-X
	pronounced as minus	minus one	minus two	minus three	minus X
<i>minus</i>	an indicator of values below zero (negative values)	Liquid nitrogen has a boiling point of minus 196°C (-196°C)			

See: [Dash/hyphen](#), [Integers](#), [Mathematical comparators/operators](#), [Minus/plus](#), [Minus sign](#)

Negative/positive

<i>negative</i>	adjective	characterised by the absence of distinguishing features denoting the kind of electric charge carried by electrons (of a quantity)	less than zero	These are the negative controls Electrons carry a negative charge Integers may be positive or negative Don't harp on the negative Negatives are allowed as are decimals
	noun	(with definite article) a bad or unwelcome quality a number less than zero a test result indicating that a condition is not present		The false negatives are worrying
<i>positive</i>	adjective	characterised by the presence of distinguishing features denoting an electric charge opposite to that carried by electrons (of a quantity)	greater than zero	These are the positive controls Each battery has a positive terminal Integers may be positive or negative He made a positive identification
		with no possibility of doubt, definite in grammar		(c.f. comparative or superlative)
	noun	(with definite article) a desirable or constructive quality a number greater than zero a test result indicating that a certain condition is present		Remember to emphasise the positive Two positives added yield a positive The test produces false positives

See: [Integers](#), [Negative/minus with numbers](#)

ALERT Check that **all** is not used with the negative

Competing interests: **all** authors declare **no** competing interests

ERROR *Syntax*: **all** is used in **positive** contexts

CORRECT by replacing **all** by **no**, and **no** by **any**

Competing interests: **no** authors declare **any** competing interests

Negative/positive regulation

<i>negative</i>	regulating in a negative way		
	the meaning may be unclear since	if the normal regulation is to increase	negative regulation acts to decrease
		if the normal regulation is to decrease	negative regulation acts to increase
<i>positive</i>	regulating in a positive way		
	the meaning may be unclear since	if the normal regulation is to increase	positive regulation acts to increase
		if the normal regulation is to decrease	positive regulation acts to decrease

ALERT Check whether **negative regulation** should be replaced by a **more informative words**

NLK can **negatively** regulate Wnt/ β -catenin signalling

ERROR *Semantics*: ambiguous, it is **unclear** what **negative** and **regulation** entail
so **this could be interpreted as** NLK's

decreasing a positive regulation [decreasing signalling]

or

decreasing a negative regulation [increasing signalling]

CORRECT by being

more specific

NLK can **decrease** the **positive regulation** of Wnt/ β -catenin signalling

NLK can **decrease** the **negative regulation** of Wnt/ β -catenin signalling

less verbose

NLK can **decrease** Wnt/ β -catenin signalling

NLK can **increase** Wnt/ β -catenin signalling

ALERT Check whether **positive regulation** should be replaced by a **more informative words**

Inhibitors of NLK can **positively** regulate Wnt/ β -catenin signalling

ERROR *Semantics*: ambiguous, it is **unclear** what **positive regulation** entails
so **this could be interpreted as** NLK inhibitors'

increasing a positive regulation [signalling is increased]

or

increasing a negative regulation [signalling is decreased]

CORRECT by

being **more specific**Inhibitors of NLK can **increase** the **positive/negative regulation** of Wnt/ β -catenin signallingbeing **less verbose**Inhibitors of NLK can **increase/decrease** Wnt/ β -catenin signalling

Negatively/positively

negatively

in a negative way

especially by expressing denial, disagreement or refusal

53% of student view the new dean **negatively**

with negative electric charge

Resin A removes the **negatively** charged particles

positively

in a positive way

especially by expressing optimism, agreement or acceptance

The negotiations started **positively**, with agreement on several

issues

emphasises that something is the case, even though surprising

This is **positively** the last word on the matter

with positive electric charge

Resin B removes the **positively** charged particles

Negligent/negligible

negligent

careless

She was **negligent** when replacing the microscope lens and broke it

negligible

insignificant

The damage to the lens was **negligible**

Neither

not either (not one or the other) of **two** objects or people

quantitative adjective, specific quantitative determiner

Neither proposal was acceptable

indefinite pronoun

Of the proposals **neither** was acceptablewhen a **neither clause** follows **not** in a sentence**neither** is followed by an **inverted verb** and **subject**The cells were **not** sterile, and **neither was the medium**See: [And neither/neither](#), [Both/either/neither](#), [Each/either/neither](#), [Inversion of verbs and subjects](#)

Neither/neither of

not one or **the other** of two thingsStyle: **of** is **unnecessary**, **neither** alone is **sufficient**

Neither is/are

is when what **neither refers to** is **singular**The **theory** may not be correct, but **neither is** any other**are** when what **neither refers to** is **plural**The **theories** may not be true, but **neither are** any others

Neither... is/are

is **neither** means **not one** or **not the other (one)** of two things**Neither** proposal **is** feasible

Neither... nor

a discontinuous correlative conjunction

links **two** grammatical equivalentsa **preposition after neither**is **repeated** after **nor**They went **neither to** the right **nor to** the left[**neither** phrase **nor** phrase]a **preposition before neither**is **not** repeatedThey went **to neither** right **nor** left[**neither** adverb **nor** adverb]with subjects of **different number**use the **singular** if **both** subjects are **singular****Neither** the **professor** **nor** the **student was** to blameif **one** is **singular** and **closer to the verb****Neither** they **nor I am** to blame[**neither they are** to blame **nor am I**]use the **plural** if **both** subjects are **plural****Neither** the **professors** **nor** the **students were** to blameif **one** is **plural** and **closer to the verb****Neither** the **student** **nor** the **professors were** to blame**Neither** the **professor** **nor** the **students were** to blame**Neither I** **nor they are** at fault[**neither I am** at fault **nor are they**]See: [Either... or/neither... nor](#), [Nor](#)ALERT Check that **neither... nor** links grammatical equivalentsYou should **neither** open the window **nor** the doorERROR Syntax: **neither... nor** here **does not** link grammatical equivalents [neither clause nor noun]

CORRECT by

moving the **verb** before **neither... nor**You should **open** **neither** the window **nor** the door

[neither noun nor noun]

inserting a **verb** after **nor**You should **neither** open the window **nor** **open** the door

[neither clause nor clause]

He should **neither** admit that he was right **nor** that he was wrongERROR Syntax: **neither... nor** here **does not** link grammatical equivalents [neither clause nor phrase]

CORRECT by

moving the **verb** before **neither... nor**He should **admit** **neither** that he was right **nor** that he was wrong

[neither phrase nor phrase]

inserting a **verb** after **nor**He should **neither** admit that he was right **nor** **deny** that he was wrong

[neither clause nor clause]

ALERT Check that **neither... nor** links **only two** grammatical equivalents

This was mentioned by **neither** Turner, Hinton **nor** Jones in their reviews
 ERROR *Syntax: neither... nor* joins **only two** items
 CORRECT by **negating the verb** and **replacing nor by or**
 This was **not** mentioned by Turner, Hinton **or** Jones in their reviews

ALERT Check that **neither... nor is not** used with a **negative**

Immuno-histological features were **not** consistent **neither** with cutaneous adenomas **nor** with adenomas of the rete testis
 ERROR *Syntax: as neither... nor* is a **negative**, it **needs no** additional **negative (not)** before it
 CORRECT by **using one or the other**, not both, by **omitting not**
 Immuno-histological features were consistent **neither** with cutaneous adenomas **nor** with adenomas of the rete testis
replacing neither... nor by either... or
 Immuno-histological features were **not** consistent **either** with cutaneous adenomas **or** with adenomas of the rete testis

Neither of... is/are

is **neither of** means **not one** or **not the other (one)** of two things **Neither of** the hypotheses *is* feasible

Nem. con. (Latin)

abbreviation of **Nemine contradicente** with no one dissenting, unanimously The motions were carried **nem. con.**

Neologisms

newly-coined words

justifiable when they describe new processes

to blog to download to input to upload

unjustifiable vogue words when the intended meaning is available in an (existing word or phrase)

factor in (account for, include) going forward (in the future) moving forward (from now on) lumicrine (exocrine)
 ongoing (continuing) price-wise (for its price) to critique (to review) value-wise (for its value)

See: [Hypercorrection](#), [Light/phrasal verbs](#), [Vague words](#)

Neoplasia/neoplasias

neoplasia **neoplasia** is a **mass** noun, which **has no plural** This surgical treatment of **neoplasia** has a good prognosis
 the **plural** form takes a **partitive** construction Many **forms of neoplasia** are treatable by surgery

Net/nett

See: [Gross/net](#)

Neurologic/neurological

neurological relating to the anatomy, functions and disorders of the nervous system **Neurological** diseases include dementia

Never

not ever negates the verb it is placed before I **never expected** to win the poster prize, but thought it possible [the **expecting** is negated]
 for emphasis with **subject-verb** inversion I expected **never to win** the poster prize, but be runner up [the **winning** is negated]
Never have I seen such wonderful cultures

See: [Inversion of verbs and subjects](#)

Never... nor

not ever... or The Department has **never** suffered a lack of funding **nor** failed to get jobs for its graduates
 (The Department **has not ever** suffered a lack of funding **nor has it** failed to get jobs for its graduates)

See: [Nor](#)

Never again

not ever again for emphasis with **subject-verb** inversion **Never again will** I let lay people into the laboratory

See: [Inversion of verbs and subjects](#)

Never before

not ever before for emphasis with **subject-verb** inversion **Never before have** I seen such beautiful monolayer cultures

See: [Inversion of verbs and subjects](#)

Nevertheless/nonetheless/notwithstanding

<i>nevertheless</i>	adverb	even so, notwithstanding this, nonetheless	He disliked the job, nevertheless he applied for it
<i>nonetheless</i>	adverb	in spite of this, notwithstanding this, nevertheless	She disliked working with mice, nonetheless had to
<i>notwithstanding</i>	adverb	nevertheless, nonetheless	
		followed by this	He disliked the job; notwithstanding this , he applied for it
	conjunction	despite the fact that, in spite of the fact that	
		followed by that	Notwithstanding that it was early, he started on time
	preposition	despite, in spite of	
		followed by a noun or pronoun	Notwithstanding the evidence , he argued he did not cheat

New

See: [Innovative/new/novel](#)

Newborn/newborns

<i>newborn</i>	adjective	of a recently born child or animal	She was looking after her newborn baby
	noun	a recently born child or animal	She was incapable of looking after her newborn
<i>newborns</i>	noun	the plural of newborn	They were all looking after their newborns

See: [Offspring/offsprings](#)

News

mass noun treated as singular	
newly received or noteworthy information, especially about recent events	Here is the news Tonight the news is broadcast at 18.00

News is/are

<i>is</i>	news is a mass noun, which has no plural the plural form takes a partitive construction	The news is good Several other items of news are of interest
-----------	---	---

Nice

subtle, requiring care/discrimination/precision/tact agreeable, attractive	His work showed a nice distinction between form and function She had a nice camera
---	---

NOTE *Overused word:* often used unnecessarily, replace by a **more relevant** term [or omit]

ALERT Check if **nice** can be replaced by a **more descriptive term**

She had a **nice** camera

ERROR *Semantics:* vague

CORRECT by **replacing nice** by **more information**

She had a **full-frame sensor** camera with **5-axis stabilisation** and a **high-power zoom lens**

Nineth/ninth

<i>ninth</i>	an ordinal number
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See: [Numbers](#)

N./N°/No./Nr./number

<i>N.</i>	confusion with Italian		
<i>N°</i>	confusion with French		
<i>No.</i>	the abbreviated form of number	used for ordinal numbers	Sample no. 3 is the best sample Quote the Grant No. GF34564 in your application
<i>Nr.</i>	confusion with German		
<i>number</i>	the unabbreviated form of No.	used for cardinal numbers	State the number of projects to be funded in the grant application

See: [Digit/figure/number/numeral](#), [Numbers](#)

nm/nM/nmol

<i>nm</i>	nanometre	a distance	(10 ⁻⁹ metre)
<i>nM</i>	nanomolar	a concentration	(nanomoles per l)
<i>nmol</i>	nanomole	an amount	(10 ⁻⁹ mole)

ALERT Check whether you mean **concentration** or **amount**

[on graph ordinate] Concentration (**nM/l**)

ERROR *Syntax:* **nM** is a concentration (nmoles per litre), which cannot be expressed **per litre**

CORRECT by

replacing nM by **nmol**

Concentration (**nmol/l**)

omitting litre

Concentration (**nM**)

No

adjective	quantitative adjective (quantitative determiner)	
	hardly any	He'll be back in no time
	not any use the plural with a plural noun	No spermatozoa were observed
		No scientists have yet entered the building
	not one use the singular with a singular noun	No spermatozoon was observed
		No scientist has yet entered the building
		No growth occurs in the presence of the inhibitor
adverb	zero	
	not at all, to no extent	
	with the comparative	He was no more able to do it than I was
answer	a negative response	
	after a question	Did you do it? No , I did not.

See: [Determiners](#), [Double negative/litotes](#), [No/yes in agreements](#), [Not any... is/are](#), [Not one... is/are](#)

ALERT Check that the meaning of **no** is clear

No review is better than a bad review
 ERROR *Semantics:* ambiguous, **it is unclear** what **no** refers to, a **particular kind of** review or **having** a review at all
 so **this could be interpreted as**
 Not having a review is better than having a bad one (no defining **whether to have** a review) [a bad review is **undesired**]
 or
 No other kind of review is better than a bad one (no defining **the kind of** review) [a bad review is **preferred**]
 CORRECT [if the **former** is meant] by
 inserting **gerunds**
 Having no review is better than **having** a bad one
 CORRECT [if the **latter** is meant] by
 inverting the **sentence**
 A bad review is better than **no** review

No... is/are

is when **no** means **not one**
 for a **singular** count noun **No spermatozoon** *was* observed
 No scientist ever *applies* for that post
 No patient *has* cryptorchidism

are when **no** means **not any**
 for **several** count nouns **No spermatozoa** *were* observed
 No scientists ever *apply* for that post
 No patients *have* cryptorchidism

No/yes in agreements

no in an answer (A) expressing **disagreement** with or **contradiction** of a **positive** statement (PS)
 PS: Look, you can see **they are** motile.
 A: **No**, they are not!
 in an answer (A) expressing **agreement** with or **affirmation** of a **negative** statement (NS)
 NS: They **would never come** under those conditions.
 A: **No**, they would not.
 in an answer (A) **agreeing** with a **negative** question (NQ)
 NQ: You **won't be** coming will you?
 A: **No**, I **won't**.
yes in an answer (A) expressing **agreement** with or **affirmation** of a **positive** statement (PS)
 PS: Epid V **was** a good meeting.
 A: **Yes**, it was.
 in an answer (A) expressing **disagreement** with or **contradiction** of a **negative** statement (NS)
 NS: You **don't want** to go.
 A: **Yes**, I do!
 in an answer (A) **agreeing** with a **positive** question (PQ)
 PQ: **Are** you coming?
 A: **Yes**, I **am**.

ALERT Check the **response** when answering in the negative

A: **Yes**, I **won't** (to NQ: You **won't be** coming will you?)

ERROR *Syntax:* agreeing with a negative **can be interpreted as** a positive (I **will** come)

CORRECT [if you are **not** coming] by
 using the **negative**

No, I **won't** [be coming]

CORRECT [if you **are** coming] by

confirming the **positive**

Yes, I **shall be** coming

No body/nobody

no body general determiner followed by a **noun**
 refers to **not any** body When the anatomy students turned up late, there was **no body** left to dissect
nobody indefinite third person singular pronoun
 refers to **not any** of several people When the anatomy students turned up early, there was **nobody** to let them in

See: [Indefinite third person pronouns](#)

No doubt but

Style: **but** is **unnecessary**, **no doubt** alone is **sufficient**

No doubt/question/question but

no doubt	There is no doubt that he made up his results (That he made up his results cannot be doubted)	[He did make up his the results]
no question	There is no question that he made up his results (It is out of the question that he made up his results)	[He did not make up his results]
no question but	There is no question but that he made up his results (There is no conclusion other than that he made up his results)	[He did make up his results]

See: [Beyond/in/no/without doubt](#), [But that/that](#), [Doubt](#)

No greater/less than

no greater than at most, equal to or fewer than, no/not more than, not greater than, the maximum
no less than at least, equal to or more than, no/not less than, not less than, the minimum

See: [Maximum/minimum](#), [Only/solely](#)

No more than

adverbial phrase not more than, or fewer, or less
 defining an adjective and a **base infinitive** He did **no more than disagree**
does not govern a finite verb

See: [At least/most](#)

ALERT Check that **no more than** governs an **infinitive**

He **no more than** looked: he did not check it thoroughly

ERROR Syntax: **no more than** does not govern a finite verb

CORRECT by using **did** for emphasis and a **base infinitive**

He **did no more than look**: he did not check it thoroughly

No one

refers to **not any/none** of several people

See: [Indefinite third person pronouns](#), [None](#), [Not any](#)

No one (and subsequent gender)

indefinite third person pronoun

when the sex of the person is **unknown** or **unclear**

(indefinite 3rd person) use **they** or **anyone**

No one pretends any more, if **they** ever did, that immuno-histochemistry is reproducible

No one pretends any more, if **anyone** ever did, that immuno-histochemistry is reproducible

See: [Indefinite third person pronouns](#)

No one/noone

no one no person

No one is/are

is **no one refers to** not **one** of several people **No one is** permitted to enter the sterile area without permission

No one/someone

no one for **negative** contexts **No one** wants to do it
someone for **positive** contexts **Someone** wants to do it

No sooner

for emphasis with **subject-verb** inversion **No sooner had** I sent off the manuscript than a similar report appeared

See: [Inversion of verbs and subjects](#)

No sooner than/when

than I'll be there **no sooner than** 9 o'clock

No sooner... than

for emphasis with **subject-verb** inversion **No sooner had** I reached my desk **than** I received a phone call

See: [Inversion of verbs and subjects](#)

No thing/nothing

no thing general determiner followed by a **noun**

refers to **not one** or **not any** of any item considered

There is **no** such **thing** as the perfect contraceptive

nothing indefinite third person pronoun

no single thing (**not one**), not anything (**not any**)

Nothing works better than Triton X-100 for removing this membrane

See: [Everything/nothing](#), [Free/freely/nothing](#), [For free/nothing](#)

Nobody is/are

is **nobody refers to** not **any** person of several people **Nobody is** permitted to smoke in the laboratory

Nobody (and subsequent gender)

indefinite third person pronoun

when the sex of the person is **unknown** or **unclear** (indefinite 3rd person)

use **they** or **anyone**

Nobody pretends any more, if **they** ever did, that immuno-histochemistry is reproducible

Nobody pretends any more, if **anyone** ever did, that immuno-histochemistry is reproducible

See: [Indefinite third person pronouns](#)

Nocebo/placebo effect

nocebo effect when a drug-trial subject's **symptoms** get **worse** after treatment with an **inactive** treatment (a **placebo**)
placebo effect when a drug-trial subject's **symptoms** get **better** after treatment with an **inactive** treatment (a **placebo**)

Nomenclature/terminology

nomenclature the devising or choosing of names for things We use the Linnaean system of zoological **nomenclature**
terminology names used with a particular technical application We employed standard **terminology** for variables measured by CASA systems

Nominal

relating to or functioning as a noun

nominal adjectives (the blind/the aged)
 nominal scale (classifying/categorical)
 nominal measurements (Contingency Tables)
 nominal numbers (alphanumeric)
 nominal possessives (Jen's/the authors')

in grammar a noun, noun phrase or noun clause (a substantive: any word or word group that functions as a noun)

See: [Analysis of categorical data](#), [Genitive \(possessive\) case](#), [Measurement scales](#), [Nominal adjectives](#), [Nominal numbers](#)

Nominal adjectives

adjectives that act as **nouns** referring to a group of people sharing a certain characteristic

preceded by the **definite article**

physical attributes	the aged	(old people in general)	c.f. an aged lecturer	(one in particular)
	the infertile	(infertile people in general)	c.f. an infertile patient	(one in particular)
non-physical attributes	the poor	(poor people in general)	c.f. a poor student	(one in particular)
	the intelligent	(intelligent people in general)	c.f. an intelligent student	(one in particular)
nationalities	the British	the French	the Chinese	
individual nouns	I liked the blue cover but they chose the red			
	His brother is the taller but he is the more intelligent			
	Of the microscopes examined we chose the cheapest			

Nominal numbers

alphanumeric numbers with letters and figures Grant number **CO/247-11/1**

See: [Digit/figure/number/numeral](#)

Nominals

nominal predicates

nouns or **noun phrases** acting as **subject complements** of linking verbs

See: [Complements of verbs](#)

Non-

prefix (**not**) used in compound (hyphenated) adjectives

usually connected with a **hyphen**

non-allergenic	[not causing allergies]
non-defining clauses	[clauses that do not define the subject, are descriptive]
non-finite verbs	[verb forms that are not finite, cannot be conjugated]
non-Gaussian	[not normally distributed]
non-hormonal	[not involving hormones]
non-native speakers of English	[speakers for whom English is not their native tongue]

no hyphen in

whole words	nonsense
foreign words	non sequitur

See: [Defining/non-defining adjectival clauses](#), [Finite/non-finite verbs](#), [Non sequitur/sequitur](#), [Prefix list](#)

Non-defining appositive phrases

See: [Defining/non-defining appositive phrases](#)

Non-defining clauses

See: [Defining/non-defining adjectival clauses](#)

Non-detectable

not able to be detected, discovered or identified

NOTE *Overused word*: often used incorrectly and unnecessarily [**omit**]

ALERT Check that use of the word **non-detectable** makes sense

Other PRDX family members **showed** non-detectable signals in the spermatozoa

ERROR *Semantics*: if a signal **cannot be** detected, there is **no signal**

CHANGE by

replacing **showed non-detectable** by **did not show**

Other PRDX family members **did not show** signals in the spermatozoa

replacing **members** by **member signals** and **showed non-detectable signals** by **were not observed**

Other PRDX family member signals **were not observed** in the spermatozoa

rewriting *the sentence* by inserting *for* and replacing *showed negative* by *there was a lack of*
 For other PRDX family members **there was a lack of** signals in the spermatozoa

Non-finite verbs

See: [Finite/non-finite verbs](#)

Non-flammable

See: [Flammable/inflammable/non-flammable](#)

Non-linear scale

See: [Linear/non-linear measurement scales](#), [Linear/semi-logarithmic/logarithmic graphical plots](#)

Non-/un-academic

<i>non-academic</i>	not related to education or scholarship a neutral statement [weaker than unacademic]	Non-academic experience is gained outside formal academic institutions
<i>unacademic</i>	not conforming to academic methods a normal statement [stronger than non-academic]	Unacademic considerations are inappropriate for reviewing papers

Non sequitur/sequitur (Latin)

<i>non sequitur</i>	it does not follow a conclusion, inference or statement that does not logically follow from the previous argument or statement His mention of epididymal melatonin receptors following the discussion of efferent duct ligation was a non sequitur
<i>sequitur</i>	it follows the conclusion of an inference, a consequence As a sequitur to establishment of a fertility profile, the role of specific epididymal regions was examined by ligation

ALERT Check that no **illogical** statements are included

The abstinence period was poorly controlled in studies which included pre-vasectomy subjects **who questioned the need for semen analysis**
ERROR *Semantics:* the subjects' questioning the need for analysis is irrelevant, unless it was responsible for the poor control
CORRECT [if the subjects querying the need for semen analysis were **not** a separate pre-vasectomy group] by **omitting the illogical phrase**
 The abstinence period was poorly controlled in studies which included pre-vasectomy subjects

None

quantitative adjective, specific quantitative determiner, demonstrative pronoun
not any Is the medium in the refrigerator? I have found **none** there
not one Can you see motile spermatozoa? I see **none**

See: [Not any](#), [Not one](#)

None is/are

<i>is</i>	when none means not one	Of the treated <i>spermatozoa</i> none was motile
<i>are</i>	when none means not any	Of the motile <i>spermatozoa</i> none were acrosome-reacted

None of

not one of	many count nouns	None of the patients has cryptorchidism
not any of	a singular count noun	None of the syllabus is taught in English
	a mass noun	None of the semen was analysed
	many count nouns	None of the patients were fertile

None of... is/are

<i>is</i>	when what none of refers to is	a singular count noun	None of the syllabus is taught in English
		a mass noun	None of the semen was collected in the vessel
	when none means not one of	a plural count noun	None of the treated spermatozoa was swollen
<i>are</i>	when none means not any of	a plural count noun	None of the patients were infertile

See: [All/none of](#), [None](#)

Nonetheless

See: [Nevertheless/nonetheless/notwithstanding](#)

Noon

See: [a.m./p.m.](#)

Nor

coordinating, non-adversative conjunction
 meaning **and not**, **and never**
 used in **neither... nor** phrases She was **neither** allowed to enter the hall **nor** to take the examination
never... nor phrases The Department has **never** suffered a lack of funding **nor** failed to get its graduates' job
not... nor phrases The media were **not** sterile **nor** were the instruments
may be used in **short sentences instead of or** There was **no** flow cytometer **nor** osmometer
 when a **nor clause** follows **not** in a sentence
 it is followed by an **inverted verb** and **subject** The media were **not** sterile **nor were the instruments**

See: [And nor/nor](#), [But nor/nor](#), [Inversion of verbs and subjects](#), [Neither... nor](#), [Never... nor](#)

Norm/normative

norm	noun	something that is usual, typical or standard	The quality control system they use is far from the norm
	verb	to adjust something to a norm	Their quality control procedure should be normed
normative	adjective	concerning rules, or forcing people to obey them	The government uses sanctions to enforce normative behaviour
	in grammar	a standard system of rules and principles for speaking and writing a language	

See: [Grammar/style](#)

Normal

adjective	not abnormal		
	often used unnecessarily and open to misinterpretation		
	replace by a relevant adjective [or omit]		
	normal distribution	Gaussian distribution	
	normal saline	physiological saline	quote concentration (0.9%, w/v) or osmolality (290 mmol/kg)
	normal semen analysis	normal semen quality	below or above WHO reference limits
	normal semen donor	normozoospermic donor	one with normozoospermic semen
	normal solution (1 equivalent/l, 1 N)	molar solution	1 mole/l (1 M)
	normal temperature	ambient, body, room, scrotal	or be precise (26°C/37°C /16°C /34°C)
	normal values	reference values	state centile and whether lower or higher

See: [Abnormal/normal/subnormal/supra-normal, Gaussian/non-Gaussian distributions](#)

ALERT Check that the use of **normal** makes sense

All men had a **normal** semen analysis

ERROR *Semantics:* **normal** placed before **semen analysis** implies that the analysis was done in the usual way

CORRECT [if the **results** of the semen analysis were within **normal** reference limits] by

omitting a and **inserting results**

All men had **normal** semen analysis **results**

rewriting the sentence by **being more specific**

All men had semen analysis **results** within the **reference** range

All men **were normozoospermic**

Normalcy/normality

normality	the condition of being normal
normalcy	confusion with American English

See: [Back-formation, Molality/molarity/normality](#)

Normally

as a matter of routine or common practice, customarily, typically, usually He **normally** had an early lunch

Normo-spermia/-zoospermia

normozoospermia [WHO terminology] relating to spermatozoa not semen

Normozoo-spermia/-spermic

normozoospermia	noun	the state of being normozoospermic
		with the minimum WHO limit or more of total, motile and normal sperm forms per ejaculate
		[WHO terminology] The control patients were chosen for their normozoospermia
normozoospermic	adjective	suffering from normozoospermia
		having the minimum WHO limit or more of total, motile and normal sperm forms per ejaculate
		[WHO terminology] The men in the control group were normozoospermic
		[only men and animals, not semen , can be normozoospermic]

Northern blots

See: [Eastern/northern/Southern/western blots](#)

Noso-

See: [Prefix list](#)

Nosocomial

See: [Iatrogenic/nosocomial](#)

Nosology

the branch of medical science dealing with the classification of diseases

Not

adverb	used to form negatives	
	before lexical verbs	He did not write it
	after modal auxiliary verbs	He ought not to do it
		He would not say it
	before adjectives	This book is not red
	when not in a sentence is followed by a neither clause	
	neither is followed by an inverted verb and subject	The cells were not sterile, and neither was the medium
	contracted to n't when joined to a preceding verb	He didn't write it

The manual's cover isn't red
 He oughtn't to do it
 He wouldn't say it

See: [Abbreviation/acronym/contraction/initialism](#), [Apostrophes](#), [Negation of verbs](#)

Not all

See: [All is not/not all is](#)

Not any

none	of many count nouns	Of the patients not any has infertility Of the cultures not any are surviving well
not any part of	a singular count noun a mass noun	Of the manual not any is in English Of that work not any was done here

See: [None](#)

Not any is/are

is	when not any refers to	not one of many not any part	Of the patients not any has infertility Of that work not any was done here
are	when not any refers to	not any of many	Of the cultures not any are contaminated

Not any... is/are

is	when not any refers to	a singular count noun a mass noun	Not any German syllabus is taught here Not any semen was analysed
are	when not any refers to	many count nouns	Not any motile spermatozoa were observed

See: [No](#), [None of](#)

Not any of... is/are

is	when not any of... refers to	a singular count noun a mass noun	Not any of the syllabus is taught in English Not any of the semen was analysed
are	when not any of... refers to	many count nouns	Not any of the motile spermatozoa were acrosome-reacted

See: [None](#)

Not as

See: [As was not the case/not as/unlike](#)

Not excepting

See: [Except/not excepting](#)

Not help but

See: [Could not but/help/help but](#)

Not less/more than

not less than	at least, equal to or more than, no less than, the minimum
not more than	at most, equal to or fewer than, no/not greater than, no/not more than, the maximum

See: [At least/most](#)

Not one

none	of may count nouns	Can you see motile spermatozoa? I see not one
------	---------------------------	--

Not one is/are

is	not one refers to one of a group of count nouns	Of damaged spermatozoa, not one was observed
----	--	---

Not one... is/are

is	not one refers to one of a group of count items	Not one spermatozoon was observed Not one scientist has yet entered the building
----	--	---

Not one of... is/are

is	not one of refers to one of a group of count nouns	Not one of the acrosome-reacted spermatozoa was observed Not one of the scientists has entered the building
----	---	--

Not only

for emphasis	with subject-verb inversion	Not only have you no References but the Methods section is incomplete
--------------	------------------------------------	--

See: [Inversion of verbs and subjects](#)

Not only... but also

a discontinuous/correlative conjunction		
links two grammatical equivalents		
a preposition after not only is repeated	They went not only to the right but also to the left	[not only phrase but also phrase]
a preposition before not only is not repeated	They went to not only the right but also the left	[not only noun but also noun]

ALERT Check that **not only... but also** links grammatical equivalents

The birth rate **not only** varies among cities **but also** from area to area within the city
ERROR *Syntax: not only... but also* here **does not** link grammatical equivalents [not only clause but also phrase]
CORRECT by
 moving the **verb** before **not only**
 The birth rate **varies not only** among cities **but also** from area to area within the city [not only phrase but also phrase]
 inserting a **verb** after **but also**
 The birth rate **not only varies** among cities **but also differs** from area to area within the city [not only clause but also clause]

Not only... but also is/are

is when a **singular** noun is closer to the verb **Not only** Dr Cooper **but also** Dr Yeung **is** on the list of attendees
are when a **plural** noun is closer to the verb **Not only** Dr Cooper **but also** his students **are** on the list of attendees

Not only that...

Overused phrase: often used unnecessarily [omit]

Not... or

See: [Nor](#)

Not since

for emphasis with **subject-verb** inversion **Not since** Olson's work **have** I seen such clear ultra-micrographs

See: [Inversion of verbs and subjects](#)

Not so much... as/but

as He was **not so much** upset **as** angry that his paper was rejected

ALERT Check that **not so much** is followed by **as**

He was **not so much** a scientist **but** a comedian
ERROR *Syntax: not so much as is not* followed by **but**
CORRECT by
 replacing **but** by **as**
 He was **not so much** a scientist **as** a comedian
 omitting **so much**
 He was **not** a scientist **but** a comedian
 rewriting *the sentence* by replacing **not so much...but** by **more a... than** and swapping **scientist** and **comedian**
 He was **more** a comedian **than** a scientist

Not until

for emphasis with **subject-verb** inversion **Not until** Thursday **shall we** know the results

See: [Inversion of verbs and subjects](#)

Note

verb to notice or pay particular attention to He **noted** that the spermatozoa were swimming backwards
 [only people and animals can notice things]
noun a brief record of ideas written down as an aid to memory His **notes** of the seminar were written up in the meeting summary

ALERT Check that **note** is not used for insentient objects

The previous evidence had **noted** that calcium was stimulatory
ERROR *Syntax: evidence is insentient and cannot* note anything
CORRECT [if the **authors** had made the note] by
 replacing **noted** by **shown**
 The previous evidence had **shown** that calcium was stimulatory
 inserting **the authors noted that** and replacing **noted** by **shown**
 The authors **noted that** the previous evidence **showed** calcium **to be** stimulatory

Notes for/of/on

notes for an **instruction** **Notes for guidance** on the use of the spectrophotometer are in the drawer beneath it
notes of a **person** Here are the **notes of** the **technician** made on that day
notes on a **method** **Notes on the use of** the spectrophotometer

Nothing

See: [No thing/nothing](#)

Nothing is/are

is **nothing refers to not one or not any** of several objects **Nothing is** known about the mechanism

Notional agreement

the acceptable use of **grammatically incorrect** terminology
 when **semantically appropriate**
 The **child** should be able to tie **their** own shoelaces at this age
their is grammatically **plural** but **child** is **singular** [but of **unknown sex**]

Anyone can attend provided **they** pay **their** own fare
they and **their** are grammatically **plural** but **anyone** is **singular** [but refers one of **many** people]
 The lab. coat left here, is not ours, it's **theirs**
theirs is grammatically **plural** but the coat's **owner** is unknown [but likely to be **singular**]

See: [Idiomatic word usage](#), [Indefinite third person pronouns](#)

Notorious/obvious

notorious	Famous or well known, typically for some bad quality or deed	He was notorious for plagiarising his students' work
obvious	Easily perceived or understood, clear, self-evident, apparent	It is obvious that his work has been plagiarised

Notwithstanding

See: [Nevertheless/nonetheless/notwithstanding](#)

Notwithstanding the fact that

Style: verbosity, can be shortened: replace by **even though**

Nought

See: [Naught/nought](#), [Zero/zeros/zeros](#)

Novel

See: [Innovative/new/novel](#)

Nowhere

for emphasis with **subject-verb** inversion **Nowhere is** it apparent that the cells are dividing

See: [Inversion of verbs and subjects](#)

Nuisance/nuisances

nuisance	nuisance is a mass noun, which has no plural the plural form takes a partitive construction	It was a nuisance to have to type in the password every time Several instances of nuisance were reported by the staff
-----------------	---	---

Number

See: [Count/number](#), [Counting/denominate/measurement numbers](#), [Digit/figure/number/numeral](#), [N./N°/No./Nr./number](#), [Numbers](#)

Number/percentage

number	the raw data from which the percentage is calculated	Twenty cells from the number of 200 assessed were motile
percentage	a part, considered in relation to the whole, expressed in hundredths	The percentage of normal forms was 10%

See: [Numbers in words and figures](#), [Per cent/percentage/percentage of/percentage point](#)

Number is/are

is	when the number itself is the subject	Of the tests to do the number increases every week
are	when what the number refers to (a plural group) is the subject	Of the motile spermatozoa a number were acrosome reacted

Number of

many, several, some The **number of** chromosomes increases at meiosis

See: [Amount/number of](#)

Number of... is/are

is	when the number itself is the head noun	The number of experiments to do is growing
are	when what the number of refers to (a plural group) is the head noun	A number of spermatozoa were acrosome reacted

Numerator

dividend

See: [Mathematical comparators/operators](#)

Numeric/numerical

numeric	relating to a number or numbers	Use the numeric keypad of your keyboard
numerical	expressed as a number or numbers	The references are listed in numerical order

Numerous

See: [Many/multiple/numerous/several](#)

Nutrient/nutriment

nutrient	noun	a substance providing nourishment	Vitamins are one of the nutrients found in fruit and vegetables
	adjective	nutritive, providing nourishment	Bacteria were grown on nutrient agar
nutriment	noun	a source of nourishment, a food that contains nutrients	Fruit and vegetables are nutriments than contain vitamins

-nym

See: [Anto-/syno-nyms](#), [Demonyms](#), [Hetero-/homo-/graphs/-nyms/-phones](#), [Hyper-/hypo-nyms](#), [Oronyms](#), [Paronyms](#), [Prefix list](#), [Pseudonyms](#)

Object

See: [Direct/indirect objects](#)

Object complements

See: [Causative/complex transitive verbs](#), [Complements of verbs](#)

Objective/subjective

<i>objective</i>	measured by numerical means, quantitative in grammar the case for objects of a verb or a preposition	Intensity was assessed by the objective method of densitometry
<i>subjective</i>	measured by non-numerical means, qualitative in grammar the case for subjects of a verb	Intensity was assessed by a subjective method a rating on a scale from 1+ to 4+

See: [Nominative \(subject\) case](#), [Objective \(object\) case](#)

Obligate/oblige

<i>oblige</i>	verb to compel the undertaking of a legal or moral duty	The hospital was obligated to close the ward until the pandemic ended
	adjective restricted to a particular function or mode of life	An obligate intracellular parasite
<i>oblige</i>	verb to be morally or legally bound to a course of action	Authors are morally obliged to inform the co-authors of the changes he made
		Doctors are legally obliged by law to keep patients alive
	to do as someone asks in order to please them	Please oblige me by making suggestions on how to improve the grammar

See: [Facultative/oblige](#)

Obligatory

See: [Crucial/necessary/obligatory](#)

Oblique objects

See: [Direct/indirect objects](#)

Oblivious

not aware of or unconcerned about what is happening around one.
does not mean forgetful

Oblivious of/to

<i>oblivious of</i>	He was working so hard he was oblivious of the weather	[he was unaware of and not interested in the weather]
<i>oblivious to</i>	She was oblivious to the weather and left without an umbrella	[she was aware of the rain but unconcerned she may get wet]

Observe

to notice or perceive something and register it as being significant

NOTE Overused word: often used unnecessarily, replace by **what was observed** [or omit]

ALERT Check whether **observed** should be **replaced** by a **more informative word**

An **increase** in the volume of spermatozoa was **observed**

STYLE Verbosity: can be shortened

CHANGE by **omitting observed** and

replacing the **noun** by its related **verb**

The spermatozoa **increased** in volume

Observed/reference values

<i>observed value</i>	the value of a particular parameter obtained by measurement from a non-reference group individual for comparison with references values from a reference group of individuals
<i>reference value</i>	the value of a particular parameter obtained by measurement from a reference group of individuals for comparison with observed values from a non-reference group individual

See: [Reference distribution/individual/interval/limits/range/values](#)

Obtained

got, acquired or secured something

NOTE Overused word: often used unnecessarily, replace by **what was obtained** [or omit]

See: [Attain/obtain](#), [Gain/provide](#), [Get](#)

ALERT Check that **obtained** is necessary

The results **obtained** revealed the presence of two glycoprotein bands

ERROR Semantics: **results** can only be **obtained**; a contrast with other results may be meant

CORRECT [if **no comparison** with other work is meant] by

omitting obtained

The results revealed the presence of two glycoprotein bands

CORRECT [if a **comparison** with other studies is intended] by

inserting here

The results **obtained here** revealed the presence of two glycoprotein bands

Obtaining/obtention

obtaining present participle of the verb **to obtain**

obtention confusion with **French**

See: [Back-formation](#)

Obverse

See: [Inverse/invert/obverse](#)

Obviate

to make unnecessary

does not mean to reduce or make acceptable

See: [Alleviate/ameliorate](#)

Obvious

See: [Notorious/obvious](#)

Obviously

clearly, without a doubt

NOTE *Overused word*: often used unnecessarily [**omit**]

See: [Clearly](#)

Occupies a juxta-nuclear position

Style: verbosity, can be shortened: replace by **is next to the nucleus**

Occur

to happen, to take place

NOTE *Overused word*: often used unnecessarily, replace by **what occurred** [**or omit**]

ALERT Check whether **occurred** should be **replaced** by a **more informative word**

A **change** in the colour of the crystals **occurred**

STYLE *Verbosity*: can be shortened

CHANGE by **omitting occurred** and

replacing the **noun** by its related **verb**

The crystals **changed** colour

After written informed consent was obtained, two pre-operative visits **occurred**

ERROR *Semantics*: ambiguous, **it is unclear** whether the visits **occurred by chance** or **were planned**

CORRECT [if the visits **were prompted** by the consent's being given] by

clarifying the **relationship** between the consent and the visits

After written informed consent was obtained, two pre-operative visits were **scheduled**

Occurred/occured/occurred

occurred **occur** is a **polysyllabic** word with a **long** vowel and **emphasis** on the **last syllable**
(the final consonant **is doubled** when adding a suffix and the consonant is **R** [or **L**])

Occurring/occurring/occurring

occurring **occur** is a **polysyllabic** word with a **long** vowel and **emphasis** on the **last syllable**
(the final consonant **is doubled** when adding a suffix and the consonant is **R** [or **L**])

Odd numbers

See: [Even/odd numbers](#)

Odds ratio

See: [Analysis of categorical data](#)

Of

often superfluous in prepositional phrases

of is **unnecessary**, the accompanying word [alone] is **sufficient**

all **of** [all]

both **of** [both]

either **of** [either]

half **of** [half]

ml **of** [ml]

mg **of** [mg]

neither **of** [neither]

one **of** the [one]

some **of** [some]

See: [Among/between/in/of, By/of](#)

Of a similar nature

Style: verbosity, can be shortened: replace by **similar**

Of cold/colder temperature

Pleonasm: as **cold/colder** refers to **temperature**, one is **superfluous**: use **cold**, **colder** or **of lower temperature**

Of heavy/heavier weight

Pleonasm: as **heavy/heavier** refers to **weight**, one is **superfluous**: use **heavy**, **heavier** or **of greater/higher/more weight**

Oligo-spermia/-zoospermia

oligozoospermia [WHO terminology] relating to spermatozoa not semen

Oligozoo-spermia/-spermic

oligozoospermia noun the state of being **oligozoospermic**
 with less than the lower WHO limit of sperm numbers per ejaculate
 [WHO terminology] The control patients were chosen for their **oligozoospermia**

oligozoospermic adjective suffering from **oligozoospermia**
 having less than the lower WHO limit of sperm numbers per ejaculate
 [WHO terminology] The controls were **oligozoospermic**
 [only men and animals, *not semen*, can be **oligozoospermic**]

See: [Oligo-spermia/-zoospermia](#)

Omission in/of

in refers to **the omission** itself There was an **omission in** the review: recently published articles

of refers to **what was omitted** There was an unfortunate **omission of** recent articles in his review

On/onto/on to/upon

on preposition presence or movement on one surface The culture dish is **on** the bench
 She moved the culture dishes **on** the shelf

onto preposition movement from one surface to another, onto She took the dish from the incubator and placed it **on** the bench

on to an **adverb** followed by a **preposition** She took the dish from the incubator and placed it **onto** the bench

upon more formal than on, especially for abstract concepts each word with its own meaning After 10 minutes, he moved **on to** the next topic
 The new approach was based **upon** two principles

On/to the contrary

used to indicate a contrast Many methods require detergents for membrane removal; Jones's **on the contrary**, used vigorous vortexing
 Jones et al. found vortexing to remove membranes efficiently; **to the contrary** we found detergents better

On a continuing basis

Style: verbosity, can be shortened: replace by **still**

On a daily basis

Style: verbosity, can be shortened: replace by **daily/per day**

On a monthly basis

Style: verbosity, can be shortened: replace by **monthly/per month**

On a temporary basis

Style: verbosity, can be shortened: replace by **temporarily**

On a weekly basis

Style: verbosity, can be shortened: replace by **weekly/per week**

On a yearly basis

Style: verbosity, can be shortened: replace by **yearly/per year**

On account of

Style: verbosity, can be shortened: replace by **as/because/since**

On behalf of

Style: verbosity, can be shortened: replace by **for**

On no account

See: [Of/on no account](#)

On one hand... on the other hand...

a discontinuous correlative **conjunction** linking **alternative** grammatical equivalents
 the second **hand** is often elided
 On one **hand**..., on the other [**hand**]...
 used to present factors which are opposed, or which support opposing views or opinions
On one hand, the results could reflect the maturity of the spermatozoa, **on the other**, they may merely reflect their age

See: [Also/in addition/on the other hand](#), [Ellipsis](#)

On the assumption of

See: By assuming/on the assumption of

On the basis of

Style: verbosity, can be shortened: replace by **as/because/by/from**

See: [Based on/on the basis of](#)

On the ground

See: [From the fact\(s\)/on the ground](#)

On the ground that

Style: verbosity, can be shortened: replace by **as/because/since**

On the one hand... on the other hand...

a discontinuous correlative **conjunction** linking **alternative** grammatical equivalents

the second **hand** is often elided

On the one **hand**... , on the other **[hand]**...

used to present factors which are opposed, or which support opposing views or opinions

On the one hand, the method would increase the yield of spermatozoa, **on the other**, it would select a subpopulation of them

See: [Also/in addition/on the other hand, Ellipsis](#)

On the opposite

See: [In/on the opposite](#)

On the part of

Style: verbosity, can be shortened: replace by **among/by/for**

On time

See: [In/on time](#)

One

cardinal number	the lowest, half of two used with less less than	One plus one is two We need three new microscopes, not one less I have one less publication than she
pronoun	for a previously mentioned item for a specified kind of person	His mood changed from one of anger to one of resignation You're the one who changed my research direction
indefinite 3 rd person singular	for anyone as representing people in general	One must admire him for his persistence

See: [Counting/denominate/measurement numbers](#), [Fewer](#), [Indefinite third person pronouns](#), [Integers](#), [Naught/nought](#), [One/we](#)

One/ones/one's

one	singular pronoun	He has two sons, one is good is clever
ones	plural pronoun	She has three sons, there are two bad ones
one's	3 rd person singular possessive pronoun	The more one does research the more one's confidence grows
	contraction of one is	He has two students; one's a foreigner
	one has	He has two students; one's been to Germany

See: [Abbreviation/acronym/contraction/initialism](#), [Apostrophes](#), [One](#), [One/we](#), [Person of verbs](#)

One and the same

used for **emphasis** It seems that these two projects are **one and the same**

See: [The same](#)

One-/two-sided tests

See: [One-/two-tailed tests](#)

One/we

one	a cardinal number				
	in words	one			
	in numerals	Arabic	1		
		Roman	upper case	I	
			lower case	i	
	a demonstrative pronoun				
	referring to a person or thing previously mentioned	He used his own scalpel, the metal one			[one of several scalpels]
		I have many A4 copies of my poster, please take one			[one copy of the poster]
	a person of a specified kind	She was the one he wanted for the position			
	people in general (indefinite third person pronoun)	One must admire him for his persistence			
we	1 st person plural nominative pronoun, used				
	by a speaker to refer to himself and one or more others				
	who are together	Shall we culture the cells with fibroblasts?			
	in the same category	No one knows the methods better than we old scientists			
	people in general	We should make the effort to introduce QC into the lab.			
	in formal contexts by a writer to refer to himself	In this review we discuss the evidence of cancer-resistance of organs			

See: [Indefinite third person pronouns](#), [Numbers](#), [One](#), [Pronouns](#), [Us/we](#)

ALERT Check if **one** should be **replaced** by a **pronoun**

Of the labelled lectin-binding proteins, the most prominent was **the** 34 kDa **one**

STYLE *Word usage*: unnatural, clumsy use of words

CHANGE by

replacing **the... one** by **one of**

Of the labelled lectin-binding proteins, the most prominent was **one of** 34 kDa
 replacing **the... one** by **that of**
 Of the labelled lectin-binding proteins, the most prominent was **that of** 34 kDa

One another

See: [Each other/one another](#)

One in N... is/are

is the **one** (singular), not the N (plural), governs the verb Only **one in four** students **gets** the spelling of epididymides correct
 [Of every four students, only **one gets** the spelling of epididymides correct]

One of... and/or

and when **one of** begins a list, the final items are joined by **and** Discuss infertility with reference to **one of** sperm count, motility **and** vitality

See: [And/or, 'And/or'](#)

One of the...

one of the... refers to **one** of a **plural group**

ALERT Check that **one of the...** **is not** used with a term **implying only one**

This is **one of the highest/lowest** grant rankings I have received

ERROR *Oxymoron*: **one of the** implies there is **more than one** but there is **only one superlative** (**highest/lowest**: nothing is as high/low)

CORRECT [if it is the highest/lowest ranking] by

omitting one of

These are **the highest/lowest** grant rankings I have received

CORRECT [if it is not the highest/lowest ranking] by

replacing the superlative by the **comparative** adjective

This is **one of the higher/lower** grant rankings I have received

replacing the superlative by the **absolute** (positive) form of the adjective

This is **one of the high/low** grant rankings I have received

One of the... if not the...

Oxymoron: **one of the...** refers to **one** of a **plural group** but **if not the...** refers to a specific **single object**

ALERT Check that the **number** agrees with each **prepositional phrase**

The new laboratory is **one of the** better, **if not the** best, buildings on the campus

ERROR *Syntax*: **one of the** needs a plural (**buildings**), the superlative (**best**) requires the singular (**building**)

CORRECT by

inserting of the before buildings

The new laboratory is **one of the** better, **if not the** best, **of the** buildings on campus

inserting buildings after better and **replacing buildings** by **building**

The new laboratory is **one of the** better **buildings**, **if not the** best **building**, on campus

inserting buildings after better, **moving on campus** after buildings, and **inserting of all**

The new laboratory is **one of the** better **buildings** on campus, **if not the** best **of all**

One of the... is/are

are what **one of the...** **refers to** (a **plural group**) is the head noun It is **one of the** more important **documents** that **have** been published
 [Of the **documents** that **have** been published, it is **one of the** more important]

One of the best

Oxymoron: **one of the** refers to one of a **plural group** but **best** is a **superlative** (of which there is only **one**: nothing is its equal, as good)

ALERT Check whether **best** should be used

This is **one of the best** reports I've read

ERROR *Oxymoron*: **one of the** implies there is **more than one** but there is **only one superlative** (**best**: nothing is as good)

CORRECT [if it is the best] by

omitting one of and **replacing reports** by **report**

This is **the best** report I've read

CORRECT [if it is not the best] by

replacing the superlative by the **comparative** form of the adjective,

This is **one of the better** reports I've read

replacing the superlative by the **absolute** (positive) form of the adjective

This is **one of the good** reports I've read

One of the first

Oxymoron: **one of the** refers to one of a **plural group** but **first** is a **superlative** (of which there is only **one**: nothing is its equal, as early, as highly ranked)

ALERT Check whether **first** should be used

His was **one of the first** posters to be submitted

ERROR *Oxymoron*: **one of the** implies more than one but there is **only one superlative** (**first**: nothing occurs earlier)

CORRECT [if it was the first submitted] by

omitting one of and **replacing posters** by **poster**

His was **the first** poster submitted
 CORRECT [if it was not the first submitted] by
 replacing the **superlative** by the **comparative** form of the adjective,
 His was **one of the earlier** posters submitted
 replacing the **superlative** by the **absolute (positive)** form of the adjective
 His was **one of the early** posters submitted
 rewriting **the sentence**
 His poster was submitted **early**

One of the last

Oxymoron: **one of the** refers to one of a **plural group** but **last** is a **superlative** (of which there is only **one**: nothing is its equal, as late, as lowly ranked)

ALERT Check whether **last** should be used

His was **one of the last** posters to be submitted
 ERROR **Oxymoron:** **one of the** implies more than one but there is **only one superlative (last: nothing occurs later)**
 CORRECT [if it was the last submitted] by
 omitting **one of** and replacing **posters** by **poster**
 His was **the last** poster submitted
 CORRECT [if it was not the first submitted] by
 replacing the **superlative** by the **comparative** form of the adjective,
 His was **one of the earlier** posters submitted
 replacing the **superlative** by the **absolute (positive)** form of the adjective
 His was **one of the early** posters submitted
 rewriting **the sentence**
 His poster was submitted **early**

One of the most

Oxymoron: **one of the** refers to one of a **plural group** but **most** is a **superlative** (of which there is only **one**: nothing is its equal)

ALERT Check whether **most** should be used

This is **one of the most expensive** microscopes we have
 ERROR **Oxymoron:** **one of the** implies more than one but there is **only one superlative (most: nothing is as expensive)**
 CORRECT [if it is the most expensive] by
 omitting **one of** and replacing **microscopes** by **microscope**
 This is **the most expensive** microscope we have
 CORRECT [if it is not the most expensive] by
 replacing the **superlative** by the **comparative** form of the adjective,
 This is **one of the more expensive** microscopes we have
 replacing the **superlative** by the **absolute (positive)** form of the adjective
 This is **one of the expensive** microscopes we have

One of the only

Oxymoron: **one of the** refers to one of a **plural group** but **only** implies there is just **one**

ALERT Check whether **only** should be used

This is **one of the only** high-value prizes we have won
 ERROR **Oxymoron:** **one of the** implies **more than one** but **only** implies there is **just one**
 CORRECT [if it is the only high-value prize] by
 omitting **one of** and replacing **prizes** by **prize**
 This is **the only** high-value prize we have won
 CORRECT [if it is one of many prizes] by
 replacing **the only** by **several/many**
 This is **one of several/many** high-value prizes we have won

One of those... is/are

are what **one of those...** **refers to** (a **plural group**) is the head noun She was **one of those scientists** who **are** never satisfied
 [Of those **scientists** who **are** never satisfied, she was **one**]

One or more... is/are

are what **one or more...** **refers to** (a **plural group**) is the subject Inside each subdirectory **are one or more methods** for preparing media
 [One or more **methods** for preparing media **are** in the subdirectory]

One single

Pleonasm: as there can be only **one** single item, **one** is **superfluous**: use **single**

On-going

Style: cliché, vogue word, unjustifiable neologism, replace by **continuing/current**

Only/solely

only	adverb	and no one or nothing more besides, exclusively, merely no longer ago than no more than not until	There are only a few cannulae left These genes were discovered only last year After treatment the cancer incidence only declined by 10% The exam results reached him only on Jan 10th
-------------	--------	--	--

	adjective	alone of its or their kind
	conjunction	except that, but, yet
<i>solely</i>	adverb	not involving anyone or anything else, exclusively, alone

It was the **only** medal we have won
 He is still a young lecturer, **only** he seems older
 He is **solely** responsible for the report
 [He **alone** is responsible for the report]

See: [Among the only](#), [One of the only](#), [Position of adverbs](#), [Some of the only](#)

ALERT Check that **only** is positioned close to the word it belongs to

The noise can **only** be reduced by sound-proofing
ERROR *Semantics*: ambiguous, it is **unclear** what **only** refers to, the **reduction** or the **sound-proofing**
 so **this could be interpreted as**
 the noise is **only** reduced [not eliminated]
 or
 the noise is reduced **only** by sound-proofing [by no other method]

CORRECT [if the **former** is meant] by
omitting only and **being more specific**
 The noise can be reduced, **but not eliminated**, by sound-proofing

CORRECT [if the **latter** is meant] by
moving only closer to **sound-proofing**
 The noise can be reduced **only** by sound-proofing

Only by
 for emphasis with **subject-verb** inversion **Only by** the weekend **will** the cells be ready for passaging

See: [Inversion of verbs and subjects](#)

Only one alternative

See: [Alternative/choice/option/possibility](#)

Only rarely

for emphasis with **subject-verb** inversion **Only rarely is** this sort of staining observed

See: [Inversion of verbs and subjects](#)

Only then

for emphasis with **subject-verb** inversion **Only then may** you attend the lectures

See: [Inversion of verbs and subjects](#)

Only when

for emphasis with **subject-verb** inversion **Only when** the cells are fully dispersed **should** they be plated out

See: [Inversion of verbs and subjects](#)

Onomatopoeia

the use of words which sound like the noise they refer to
 coo buzz hiss moo rat-a-tat-tat

Onward/onwards

<i>onward</i>	adjective	continuing or moving forwards (of a journey)
<i>onwards</i>	adverb	in a continuing forward direction, ahead forward in time

I told them where to change trains for their **onward** journey
 Despite the initial setback they continued **onwards**
 From 1974 **onwards** he studied the epididymis

Oocyte

noun	female gamete	comprising	the vitellus of cytoplasm enclosed by a membrane separated by an acellular coat	the ooplasm the oolemma a peri-vitelline space from the zona pellucida
as noun adjunct	oocyte maturation sperm-oocyte binding		the maturation of oocytes the binding of spermatozoa to oocytes	

See: [Gamete](#), [Gametogenesis](#)

ALERT Check whether **ova** or **oocyte** is intended

The swum-up spermatozoa were incubated with five **ova** per dish
ERROR *Semantics*: **ova** are only formed after sperm penetration
CORRECT by **replacing ova** by **oocytes**
 The swum-up spermatozoa were incubated with five **oocytes** per dish

Op. cit. (Latin)

See: [Loc. cit./op. cit.](#)

Operable/operative

operable able to be implemented, practical After translation the procedures were **operable**

<i>operative</i>	able to be operated on	His cancer is operable
	able to be used	The repaired equipment was operable
	having or taking effect	The institute's safety rules are also operative within the social room
	does not mean important	

*Opinion*See: [In/to my opinion](#)*Opinion-based treatment*See: [Assertion-/eminence-/evidence-/opinion-based treatment](#)*Opposite*

adjective	on the other or further side when seen from a certain viewpoint, facing	
	no preposition	The students were cycling in opposite directions when they collided
	followed by a preposition	Jones's opinions are rarely opposite to Cooper's
adverb	completely different, of a contrary kind	
	no preposition	Currents flowing in opposite directions
	followed by a preposition	Antonym: a word that is opposite in meaning to another
noun	in a position facing a specified subject	
	no preposition	During the exam she was sitting almost opposite
	totally different from, the reverse of, someone or something	Hinton et al. believe just the opposite
preposition	no preposition	The result was the opposite of what was expected
	followed by a preposition	We were opposites in temperament
	in a position on the other side of a specific area from, facing	
preposition	no preposition	They sat opposite one another

See: [Inverse/invert/obverse](#)*Opposite... of*

opposite as adjective defining a noun	
followed by a preposition	The Andrology lab. is on the same corridor but on the opposite side from mine
	These pieces of equipment lie at the opposite ends of the price range
	The Dean took the opposite view to that of the students

*Opt*See: [Choose/opt/select](#)*Opt in/out*

<i>opt in</i>	to choose to participate in something	You may opt in to have your details included in the database
<i>opt out</i>	to choose not to participate in something	You may opt out of the pension scheme

*Optical density (OD)***former** terminology for absorbanceSee: [Absorbance/transmittance](#)*Optics*

proper noun, plural noun usually treated as singular	
the study of sight and the behaviour of light and other forms of radiation	The new lenses benefit from the superior optics of new materials

Optics of... is/are

<i>is</i>	optics is a plural noun usually treated as singular	The optics of the lens system is quite complicated
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See: [Singular/plural nouns](#)*Optics is/are*

<i>is</i>	when optics itself is referred to	Optics is the study of the behaviour of light
<i>are</i>	when observations made with certain optics are referred to	Optics with a small tip diameter bring a risk of injury

See: [Singular/plural nouns](#)*Optimistic*See: [Hopeful/optimistic](#)*Optimal/optimum*

<i>optimal</i>	adjective	best, most favourable, optimum	We are seeking the optimal temperature for hyperactivation
<i>optimum</i>	adjective	most conducive to a favourable outcome, optimal	The optimum temperature for hyperactivation depends on the medium
		does not mean best	
	noun	the most favourable conditions	For hyperactivation the optimum temperature lies from 35°C to 37°C

*Option*See: [Alternative/choice/option/possibility](#)*Or*

conjunction	non-adversative, coordinating
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contrasts grammatical equivalents	[noun or noun] [adjective or adjective] [adverb or adverb] [phrase or phrase] [clause or clause]	He was proof-reading a book or manuscript The book was red or brown He could work quickly or accurately She was in the office or in the laboratory He was preparing the medium or was dissecting the tissue The professor or the student was to blame The professors or the students were to blame The professor or the students were to blame The student or the professors were to blame
is followed by	the singular when the plural when	both subjects are singular both subjects are plural one subject is plural
introduces an alternative nomenclature	(also known as [aka])	Organs were enlarged by an increase in cell number (or hyperplasia) Organs were enlarged by an increase in cell number, or hyperplasia

NOTE because **or** (alternatives, only one thing happening) does not preclude **and** (all together, all things happening)
or should be used instead of '**and/or**' ('and' or 'or': an oxymoron)

See: [Alternatively/or](#), [And](#), [And/or](#), ['And/or'](#), [But](#), [Conjunctions](#), [Implied meaning of sentences](#), [Slash/solidus](#)

ALERT Check that the clauses of equal importance joined by **or** are separated by a **comma**

On alternate weekends the monkeys were given fresh fruit **or** chow was given to the rats [noun **or** noun]
ERROR *Semantics*: discourteous, the reader **may initially think** that the **monkeys had a choice of diet**
and **then realises otherwise** [the **rats** received chow]

CORRECT [where they may otherwise be confusion] by

separating clauses of equal importance **with a comma**

On alternate weekends the monkeys were given fresh fruit, **or** chow was given to the rats [clause, **or** clause]

rewriting the sentence by **inverting the order** of the second clause **with no comma**

On alternate weekends **the monkeys** were given fresh fruit **or the rats** were given chow [clause **or** clause]

Electromagnetic pollution: another risk factor for infertility **or** a red herring?

ERROR *Semantics*: as the conjunction **or** links two nouns (infertility, herring) after the preposition **for**, each is considered a risk factor

CORRECT [if a **red herring** is an **alternative to** another risk factor] by

separating phrases of equal importance **with a comma**

Electromagnetic pollution: another risk factor for infertility, **or** a red herring?

HIF is up-regulated specifically by decreasing oxygen tension **or** hypoxia

ERROR *Tautology*: as **hypoxia is** decreased oxygen it **is not** an alternative

CORRECT [if **hypoxia** is given as an **alternative name** for decreased oxygen tension] by

using brackets

HIF is up-regulated specifically by decreasing oxygen (**or hypoxia**)

omitting or and **using brackets**

HIF is up-regulated specifically by decreasing oxygen (**hypoxia**)

Or alternatively

Pleonasm: as **alternatively** and **or** both imply **alternatives**, one word is **superfluous**: use **one or the other**, not both

Or so/or two

or so about, approximately

an **unspecified** amount

as subject, can refer to **either single or plural** numbers

with a **singular** verb

I waited for **five or so** minutes before the office opened

One drop or so of NaOH **is** normally enough to raise the pH to the required value

[**About one drop** of NaOH **is** normally enough...]

with a **plural** verb

Five drops or so of NaOH **are** normally enough...]

[**About five drops** of NaOH **are** normally enough...]

or two a few, approximately

a **specified** number

as subject, include **two** (a plural number)

with a **plural** verb

I had to wait for **one or two** minutes before the office opened

A **drop or two** of NaOH **are** required to bring about precipitation

[**One or two drops** of NaOH **are** required to bring about precipitation]

Or whatever

shorthand for **Or whatever it may be**

ALERT Check whether **or whatever** should be replaced by something less colloquial or more informative

The change in motility may reflect intracellular ionic strength, pH **or whatever**

STYLE *Word usage*: **whatever** provides little information

CHANGE by

avoiding shorthand

The change in motility may reflect intracellular ionic strength, pH **or the like**

being more specific

The change in motility may reflect intracellular ionic strength, pH **or the concentration of Ca²⁺**

Orders of magnitude

are used to make **approximate** comparisons

differences in order of magnitude are measured on the **decimal logarithmic** scale

in **decades** (factors of ten)

two numbers have the same order of magnitude	if the larger is	< 10x the smaller
a difference of one order of magnitude	if the difference is	about 10x
two orders of magnitude		about 100x
three orders of magnitude		about 1000x

See: [Decimal numerals/places/points](#), [Exponentiation/logarithms](#), [Numbers](#), [Significant digits](#)

Ordinal numbers

See: [Cardinal/ordinal numbers](#), [Measurement scales](#)

Ordinance/ordnance

<i>ordinance</i>	an authoritative order	The ordinance will regulate the services of water supply companies throughout the country
<i>ordnance</i>	mounted guns, artillery	The gun was a brand new piece of ordnance

Ordinate

See: [Abscissa/applicate/ordinate](#)

Origin/source

<i>origin</i>	the point, place or person which is a source	A has its origin in B	The chemicals have their origin in Sigma-Aldrich
		A originates from B	The chemicals originate from Sigma-Aldrich
<i>source</i>	a point, place or person from which something originates	B is the source of A	Sigma-Aldrich is the source of the chemicals
		The source of A is B	The source of the chemicals is Sigma-Aldrich

ALERT Check that **origin** is the intended word

The human epididymis is an **origin** of RANTES in seminal plasma

ERROR *Syntax*: where something **originates** is a **source**

CORRECT by

replacing **an origin** by **a source**

The human epididymis is a **source** of RANTES in seminal plasma

rewriting the sentence

RANTES in seminal plasma **originates** from the human epididymis

Original

See: [Copy/original/top copy](#)

Originally

from or in the beginning

NOTE *Overused word*: often used unnecessarily [**omit**]

ALERT Check that **originally is not** used with words **implying prior occurrence**

The idea was **originally** conceived in 1972

ERROR *Pleonasm*: things can **only** be conceived once

CORRECT by

omitting originally

The idea was **conceived** in 1972

replacing **was originally conceived** by **originated**

The idea **originated** in 1972

Organ/tissue

organ a differentiated structure with a specific function consisting of **tissues**

RNA was extracted from the following human **organs**: epididymides, testes, heart, liver and kidney

tissue the distinct components that **comprise organs**

consisting of specialised **cells** and their **products**

After the tunica albuginea was removed, RNA was extracted from the remaining testicular parenchymal **tissue**

The vasal epithelium was stripped from the peritubular muscle and RNA was extracted from both **tissues**

Orthography

the branch of grammar dealing with the combination of letters into words, spelling

Orthologue

See: [Homologue/orthologue/parologue/speciation](#)

Osmolality

See: [Molality/osmolality/osmolarity/tonicity](#)

Osmolarity

See: [Molality/osmolality/osmolarity/tonicity](#)

Osmoles

See: [Moles/osmoles](#)

Other

additional, further	adjective	She gave one other word of advice
	pronoun	The lab. now has five members of staff, students and three others
distinct from something already mentioned	adjective	He could see no other solution than to go by train
		He could see no solution other than to go by plane
	general determiner	Other means of separation are needed in this case
one alternative of two	pronoun	They developed a method unrelated to any other
	adjective	Place the incubator on the other side of the bench
	pronoun	Cannulate one side and then the other
those not already mentioned	adjective	I examined one part and the technician examined the other parts
	pronoun	The technicians left the lab. and the others followed
	is not an adverb	

See: [Another/other](#), [Apart from/except for/other than](#), [Further](#), [Other/otherwise than](#), [Otherwise](#)

ALERT Check that the use of **other** *does not* create **ambiguity**

A droplet of sperm suspension was mixed with the **other** droplet of medium
ERROR *Semantics*: the adjective implies that the droplets are **similar**, **but they must differ**, since only one contains spermatozoa
CORRECT

by **omitting other**

A droplet of sperm suspension was mixed with a droplet of medium

by **omitting other** and **replacing the other droplet by one**

A droplet of sperm suspension was mixed with **one** of medium

ALERT Check that **other is not** used as an **adverb**

He is unable to act **other** than ungraciously

ERROR *Syntax*: **other** is an **adjective** used here as an **adverb** describing a verb (**to act**)

CORRECT by **replacing other by otherwise**

He is unable to act **otherwise** than ungraciously

ALERT Check that **other is not** used with words **implying an exception**

Every **other** laboratory here **but** this one has a sterile workbench

ERROR *Tautology*: as both **other** and **but** refer to an **alternative**, one word is **superfluous**

CORRECT by **using one or the other**, not both, by

omitting other

Every laboratory here **but** this one has a sterile workbench

omitting but this one

Every **other** laboratory here has a sterile work bench

Other alternative

Pleonasm: as **alternative** is the other possibility (of two), **other** is **superfluous**: use **alternative**

Other than

See: [Apart from/except for/other than](#), [Beside/besides/other than](#), [But](#), [Other/otherwise than](#)

Other/otherwise than

other than adjectival phrase defines a **noun** apart from, except We do not use **anything other than** this old microscope

is not an adverbial phrase

otherwise than adverbial phrase defines a **verb** differently from There is no suggestion that we **are to take** this **otherwise than** literally

See: [Apart from/except for/other than](#), [Beside/besides/other than](#), [Other](#), [Otherwise](#)

ALERT Check that **other than is not** used as an **adverb**

They could not have succeeded **other than** by hard work

ERROR *Syntax*: **other than** is an **adjectival phrase** used here as an **adverbial phrase** defining a verb (**succeed**)

CORRECT by

replacing other by otherwise

They could not have succeeded **otherwise than** by hard work

replacing other than by except or save

They could not have succeeded **except/save** by hard work

Otherwise

adverb in circumstances different from those present, or else
 apart from that, in other respects
 in a different way

He was not interested in the salary, **otherwise** he would not have come

The offspring were **otherwise** totally black with white paws

They were **otherwise** engaged

He is unable to act **otherwise** than graciously

ALERT Check that **awkward sentences are not** created when replacing **other** by **otherwise**

He is unable to teach **otherwise than** in a way that encourages respect

STYLE *Word usage*: clumsy sentence, awkward to read

CHANGE by **replacing otherwise than by save or except**

He is unable to teach **save/except** in a way that encourages respect

The effect is not seen **otherwise than** when androgens are present
 STYLE *Word usage:* clumsy sentence, awkward to read
 CHANGE by **replacing *otherwise than* by *save* or *except***
 The effect is not seen **save/except** when androgens are present

Otherwise than

See: [Other/otherwise than](#)

Ought

See: [Must/ought/should](#)

Ourselves/us

<i>ourselves</i>	1 st person plural reflexive form used by speakers to refer to themselves as objects of a verb or preposition we personally, for emphasis	We all cut ourselves during the surgery We wrote it ourselves
<i>us</i>	1 st person plural objective (object) case	They gave the prizes to us

See: [Intensive/reflexive genitive pronouns](#)

Output/outputted

output the past tense and past participle of the verb to output

Outside/outside of

<i>outside</i>	preposition	Wait for me outside the building
<i>outside of</i>	noun phrase	The outside of the building is not as attractive as the inside

Outstanding

clearly noticeable, standing out	The all praised her outstanding thesis work
not yet resolved or dealt with	Much of the chapter is still outstanding

ALERT Check that the use of **outstanding** does not create ambiguity

Since this technique is still at an experimental stage, clinical data are **outstanding**
ERROR *Semantics:* ambiguous, **it is unclear** which meaning of **outstanding** is implied
 so **this could be interpreted as**

although the technique is experimental, clinical data are **better than expected** [outstanding meaning *clearly noticeable*]
 or

because the technique is experimental, **no** clinical data **are available** [outstanding meaning *not yet resolved*]

CORRECT [if the **former** is meant] by
replacing *since* by *although* and *outstanding* by *impressive*

Although this technique is still at an experimental stage, clinical data are **impressive**

CORRECT [if the **latter** is meant] by
replacing *since* by *because*, and *outstanding* by *unavailable*

Because this technique is still at an experimental stage, clinical data are **unavailable**

Outward/outwards

<i>outwards</i> adverb	towards what is outside	The incubator door opens outwards
<i>outward</i> adjective	directed or proceeding to the outside	He displayed outward satisfaction at having won the poster prize

Over

See: [More than/over](#)

Over all/overall

<i>over all</i>	preposition, pronoun	He had authority over all of the others
<i>overall</i>	adjective	The overall effect is impressive
	adverb	Overall , 60 students should be able to attend

Overlook/oversee/oversight

<i>overlook</i>	verb	to fail to notice to have a view from above	I overlooked the contamination in the culture medium over the weekend The social room overlooks the laboratories
<i>oversee</i>	verb	to supervise	We confirmed that the director will oversee the completion of the laboratory
<i>oversight</i>	noun	an unintentional failure to act or notice	It was an oversight not to change the culture medium over the weekend

See: [Perspective/point of view/standpoint/viewpoint](#)

Overly

excessively, too

Oversee

See: [Overlook/oversee/oversight](#)

Oversight

See: [Overlook/oversee/oversight](#)

Overused words

often used unnecessarily	remove to shorten text									
may be	comments	clearly	interestingly	meaningful	obviously	plainly				
	duplicated in meaning	again	all	also	back	both	different	normal	value	
	incorrectly used words	absent	issue	significantly	using					
	stock phrases	clichés	carried out	in the future	in the past					
	unnecessary words	actually	appears	basically	done	get	level	modality	ongoing	pattern profile

See: [Cliché/idiom/proverb](#), [Plain English](#), [Vague words](#)

ALERT Check that **vague words** *do not* obscure the meaning

Protein co-localization **studies** were **done using** laser scanning confocal microscopy

STYLE *Word usage:* **studies**, **done** and **using** are all overused words

CHANGE by **being more specific**

Proteins were **co-localised by** laser scanning confocal microscopy

Overview/preview/review

overview	a general review or summary	He gave a brief overview of the research field
preview	an opportunity to see something before publication	After having a preview of his thesis, I believe he is eligible
review	a critical appraisal published in a journal	The referee must make an unbiased review of the paper

Owing

See: [Due/owe/owing](#)

Owing to

See: [Due/owing to](#)

Owing to the fact that

Style: verbosity, can be shortened: replace by **as/because/since**

Oxford comma

See: [Serial commas](#)

Oxymoron

a **pair of words** or **phrases** with **meanings that contradict** each other

in a **random order** (**random** is by definition **not ordered**)

most of the brightest (**most of the** refers to **many** of a plural group but **brightest** is a superlative, of which there is **only one**)

one of the best (**one of the** refers to **one** of a plural group but **best** is a superlative, of which there is **only one**)

some of the finest (**some of the** refers to **several** of a plural group but **finest** is a superlative, of which there is **only one**)

sometimes **intentional** for **rhetorical effect**

the silence was **deafening** (**silence** means **no sound**, but **deafening** is caused by **sound**)

it was **organised chaos** (**chaos** is by definition **unorganized**)

plural **oxymora**

$P < / \leq 0.05$

$P < 0.05$	used if $P = 0.05$ is not considered significant
$P \leq 0.05$	used if $P = 0.05$ is considered significant

p.a. (Latin)

abbreviation of **per annum** by year, for each year The starting salary is HK\$250,000 **p.a.**

Paedo-/ped-

paedo-	(Greek)	prefix	relating to children	Department of Paediatrics
ped-	(Latin)	prefix	relating to feet, teaching	Use the pedestrian crossing

See: [Prefix list](#)

-paenia/-penia/-poenia

See: [Hypercorrection](#), [Suffix list](#)

Pair

a set of two things used together or considered as a unit, a singular collective noun

See: [A/the pair is/are](#), [A/the pair of... is/are](#)

Pandemic

See: [Endemic/epidemic/epizootic/pandemic](#)

Paradigm

See: [Algorithm/paradigm](#)

Paragraphs

See: [Grammar/style](#)

Parallel

adjective occurring or existing at the same time, or in a similar way
verb to be similar to, to correspond to, to move in a similar way

Parallel experiments on the protein confirmed the up-regulation of the gene
The increase in epididymal weight **paralleled** the rise in serum testosterone

Parallel/parallel

parallel as verb to be similar or corresponding
past tense, past participle paralleled
present participle, gerund paralleling
Our results **parallel** theirs

Paralogue

See: [Homologue/orthologue/paralogue/speciation](#)

Paralysis/paresis

paralysis the loss of the ability to move part or most of the body
typically as a result of illness, poison or injury
The snake venom causes **paralysis**, breathing difficulties and death
paresis partial paralysis
muscular weakness caused by nerve damage or disease
The ornidazole-fed rats suffered from hind limb **paresis**

Parameter/quantity/value

parameter a **characteristic** and **measurable factor** describing something, a category
semen volume
sperm concentration
sperm motility
sperm number per ejaculate
quantity a specific **number** or **amount** in **specified units** The technician had weighed out the appropriate **quantity** of NaCl (**24.7 mg**)
value a **numerical quantity** The Table lists the **values** of all components of the medium
a **measured quantity** of a particular **parameter**
providing the parameter's **characteristics** or **quality** in a particular study

	Study A	Study B
semen volume (ml)	3	4
sperm concentration (10 ⁶ /ml)	20	10
sperm motility (%)	60	40
sperm number/ejaculate (10 ⁶ cells)	60	40

studies A & B evaluate **the same** semen **parameters** but the **parameter values** are **different**

NOTE The measured **quantity 24.7 mg** appears in a Table as the **value 24.7** under the heading of the **units mg**

See: [Multipliers/units](#), [Units](#)

ALERT Check whether **parameters** should be **replaced** by a more appropriate word

His semen **parameters** were in the normal range

ERROR *Semantics:* **parameters** can be neither normal nor abnormal, but their **values** can

CORRECT by

replacing parameters by **parameter values**

His semen **parameter values** were in the normal range

replacing parameters were by **quality was**

His semen **quality was** in the normal range

Paramount/tantamount

paramount more important than anything else, supreme
tantamount in effect equivalent
It is of **paramount** importance to sterilise the work bench after culture
His withdrawing the paper is **tantamount** to admitting plagiarism

Paraphrase/quotation/verbatim

paraphrase noun a **rewording** of written or spoken text
Throughout this review are irrelevant **paraphrases** of lines from Shakespeare
verb to express the meaning of written or spoken text **in different words**, especially to make it clearer
It is helpful to **paraphrase** the main argument of each speaker in the debate for those unable to attend
quotation noun a group of **words taken directly** from a text or speech, repeated by someone other than the author or speaker
This **quotation** from the preface to Cooper's book on the Epididymis is worth ignoring
verbatim adjective copied, quoted or translated in the **same words** as originally used
These are notes of a resume of proceedings, not a **verbatim** account
adverb in the **same words** as originally used (including errors)
Plagiarism is indicated by the first introductory paragraph's having been copied **verbatim**

See: [Direct/indirect speech](#), [Inverted commas](#), [Quotation/quote/quotes](#)

Parenteral

See: [Enteral/parenteral](#)

Parentheses/parenthesis

parentheses a pair of **round brackets**
used to **separate parenthetical** words from surrounding text
The level of sperm proteins studied (HSSPA5, AKR7A2 and CTSB) was related to the extent of sperm motility
parenthesis a **parenthetical** statement
an amplifying or explanatory word, phrase or sentence
inserted in a text that is grammatically complete without it

usually set off by punctuation of

round brackets (parentheses)

The level of the sperm proteins (**HSSPA5, AKR7A2 and CTSB**) was related to the extent of sperm motility

Em dash and no space each side of it

The level of the sperm proteins—**HSSPA5, AKR7A2 and CTSB**—was related to the extent of sperm motility

En dash and a space each side of it

The level of the sperm proteins - **HSSPA5, AKR7A2 and CTSB** - was related to the extent of sperm motility

commas and a space after each of them

The level of the sperm proteins, **HSSPA5, AKR7A2 and CTSB**, was related to the extent of sperm motility

See: [Brackets, Dash/hyphen, In parentheses/parenthesis](#)

Paresis

See: [Paralysis/paresis](#)

Part from/with

from	someone	I parted from my colleague at midnight
with	something	I parted with my espresso machine when I left home

Partially/partly

partially	incompletely, to some extent	After treatment the rats were partially paralysed
partly	in part, not completely	The laboratory wall is partly stone and partly glass

Particle

in grammar a **function** word
any of the class of words (prepositions/adverbs) used with verbs to make **phrasal verbs** and the **full infinitive**

See: [Infinitives, Light/phrasal verbs](#)

Passive

See: [Active/passive voice](#)

Past

gone by in time and no longer existing

NOTE *Overused word:* often used unnecessarily [**omit**]

Past achievements

Pleonasm: as all **achievements** occurred **in the past**, **past** is *superfluous*: use **achievements**

Past experience

Pleonasm: as **experience** can only be gained from **past actions**, **past** is *superfluous*: use **experience**

Past precedents

Pleonasm: as **precedents** can only be set **in the past**, **past** is *superfluous*: use **precedents**

Past publications

Pleonasm: as **publications** must have appeared **in the past**, **past** is *superfluous*: use **publications**

Past records

Pleonasm: as **records** are necessarily **of the past**, **past** is *superfluous*: use **records**

Pasteurisation/UHT treatment (Ultra-High Temperature treatment)

Pasteurisation	the partial sterilisation of a product	to make it safe for consumption	
	low temperature for a long period	<100°C for up to 30 min	does not kill bacterial spores
UHT treatment	complete sterilisation of a product	to extend the shelf life	
	high temperature for a short period	135°C for 2–5 seconds	kills bacterial spores

See: [Cleaning/cleansing/disinfecting/sterilising](#)

Pathologic/pathological

pathological	adjective	relating to pathology (formal)	We study the pathological changes in the epididymis of old men
		compulsive, obsessive (informal)	He has always been a pathological liar

Patient

adjective	having patience, tolerating inconvenience without becoming angry	He was very patient with the foreign students' use of English
	[only people can have patience]	
noun	an ill person	Epididymides were obtained from prostatic carcinoma patients

ALERT Check that the correct meaning of **patient** is implied

Patient blood was examined

ERROR *Syntax:* **only people** can **show patience**

CORRECT by

making patient **genitive**

Patients' blood was examined

using patient as a nounBlood from **patients** was examined**Pattern/profile**

pattern a regular and intelligible **form or sequence** discernible in results
of different things at one time point The **pattern** of staining results from the antibody staining of principal but not clear cells
The **pattern** of lectin staining (midpiece) differs from that of the antibody (principal piece)

profile a **representation of information** relating to particular characteristics
of **different** things at **one time-point** The tissue **profiles** of Wnt/ β -catenin signalling gene expression is presented in Table 1
of **one** thing at **different times** Semen quality **profiles** for individuals were obtained over a period of two years

NOTE Overused words: often used unnecessarily, **define** or **explain** [or omit]**Ped-**See: [Paedo-/ped-, Prefix list](#)**Pelleted/pelleted**

pelleted **pellet** is a **polysyllabic** word with **no emphasis** on the **last syllable**
(the final consonant **is not doubled** when adding a suffix [unless it is **L** or **R**])

Pelleting/pelleting

pelleting **pellet** is a **polysyllabic** word with **no emphasis** on the **last syllable**
(the final consonant **is not doubled** when adding a suffix [unless it is **L** or **R**])

-penia (Greek)See: [Hypercorrection, Suffix list](#)**Penultimate/ultimate**

penultimate the last but one, the second-last, the one before last in a list His **penultimate** lecture was video-recorded

ultimate the last in a list, being or happening at the end of a process, final His **ultimate** aim was to achieve the most publications that year
the most extreme example of its kind The **ultimate** accolade was membership of the Society

People/person/personnel/persons

people	plural of person	indefinite (less formal)	Many people came to the inaugural lecture
person	singular of people, persons	precise, definite (formal)	One person can do the job
personnel	plural	members of a company or organisation	All safety personnel require training
persons	plural of person	precise, definite (formal)	Entry restricted to authorised persons only

Per

by, by way of, for each, out of

See: [As per/per, Slash/solidus](#)**Per annum**See: [p.a.](#)**Per capita (Latin)**

by heads, for each person	adverb	We have fewer infertility clinics per capita than other cities
	adjective	We have higher per capita spending than elsewhere

Per cent/per mille/per myriad

per cent	%	parts per hundred	1/100	= 1%	= 10‰	= 100‰‰
per mille	‰	parts per thousand	1/1000	= 1‰	= 10‰‰	= 0.1%
per myriad	‰‰	parts per ten thousand (basis point)	1/10,000	= 1‰‰	= 0.1‰	= 0.01%

Per cent/percent

per cent	abbreviation of per centum (Latin)	by hundredths, out of one hundred	abbreviated as %
percent	confusion with American English		

Per cent/percentage/percentage of/percentage point

per cent	a unit	out of one hundred	
	written as	per cent	with written numbers
		%	with figures
	used as	a noun	with a space between
			with no space between
			Thirty-two per cent
			32%
		a noun	Sixty per cent of the students passed the examination
			60% of the students passed the examination
		an adverb	Forward motility reached fifty per cent
			Forward motility reached 50%
	for concentrations		stipulate whether by weight (w) or by volume (v)
	w/v for solids		4% (w/v) bovine serum albumin
	v/v for liquids		5% (v/v) Triton X-100
	gases		5% (v/v) CO ₂
	for ranges		do not repeat the units
			40—50%
			not 40%—55%
			40 ± 5%
			not 40% ± 5%
			per cent stained
			not per cent stained [%]
percentage	a value (a denominate number)		a part, considered in relation to the whole, expressed in hundredths

	written as percentage not %age	The semen parameters studied were sperm concentration and percentage motility
<i>percentage of</i>	a partitive construction	The percentage recovery was estimated at the end of incubation
<i>percentage point</i>	one hundredth of the total	The percentage of acrosome-reacted motile cells was high
		the absolute extent of an increase
NOTE	a decrease in sperm motility from 20 to 10% is a decrease of 10 percentage points	a 50% decrease
	an increase in normal forms from 5 to 10% is an increase of 5 percentage points	a 200% increase
		a percentage decrease of 50
		a percentage increase of 200
See:	Centile/percentile , Counting/denominator/measurement numbers , Fraction/percentage/proportion/ratio , Number/percentage	
ALERT	Check that per cent is not confused with percentage	
	No significant differences in the per cent of BrdU-labelled mesenchymal cells were observed among these three groups	
ERROR	<i>Semantics:</i> per cent is a unit not a value	
CORRECT	by replacing per cent by percentage	
	No significant differences in the percentage of BrdU-labelled mesenchymal cells were observed among these three groups	
	The mean per cent motile spermatozoa was 11.5%	
ERROR	<i>Semantics:</i> per cent is a unit not a value, 11.5% is a value not a unit	
CORRECT	by replacing per cent by percentage of	
	The mean percentage of motile spermatozoa was 11.5	
<i>Per cent is/are</i>		
<i>is</i>	when the value itself is the subject	Of last year's graduate population 30% is unemployed
<i>are</i>	when what per cent refers to (a plural group) is the subject	70% abnormal morphology is incredibly high for a father
		Of the motile spermatozoa 15% are motile
<i>Per cent of... is/are</i>		
<i>is</i>	when what per cent of refers to is singular	15% of the solution has decomposed
		25% of the electorate has yet to make up its mind
		35% of a scientist's time is taken up writing grants
		0.5% of the male population is infertile
<i>are</i>	when what per cent of refers to is plural	95% of the values fall within the 95% confidence limits
<i>Per os</i> (Latin)		
See:	p.o.	
<i>Per se</i> (Latin)		
	by or in itself or themselves, intrinsically	The facts per se are not important, but the hypothesis they support is
<i>Percentage is/are</i>		
See:	A/the percentage is/are	
<i>Percentage of... is/are</i>		
See:	A/the percentage of... is/are	
<i>Percentile</i>		
See:	Centile/percentile	
<i>Perceptive/percipient/perspicacious/perspicuous</i>		
<i>perceptive</i>	understanding readily or intuitively	This is an extraordinarily perceptive account of the epididymis
<i>percipient</i>	having good insight or understanding, perceptive	She is a percipient interpreter of the students' needs
<i>perspicacious</i>	understanding without explanation	This report offers quite a few facts to the perspicacious researcher
<i>perspicuous</i>	clearly expressed and easily understood, lucid	His thesis provides simple and perspicuous explanations of his findings
<i>Perforce</i>		
	inevitably, of necessity, unavoidably	Scientists, perforce , have to settle for far more exacting evidence than laymen
<i>Perform</i>		
	to accomplish, to carry out, to conduct, to do, to organise an action, task or function	
<i>Performed</i>		
	past participle of the verb to perform	
NOTE	<i>Overused word:</i> often used unnecessarily, replace by past participle of the action performed	
	not calibration/cleaning/sterilisation was performed	but was calibrated/cleaned/sterilised
ALERT	Check whether performed should be replaced by a more informative verb	
	Measurements of sperm size were performed	
STYLE	<i>Verbosity:</i> can be shortened	
CHANGE	by rewriting the sentence by	
	omitting performed and replacing the noun by its related verb	
	Sperm size was measured	
	Separation of proteins by western blotting was performed	

STYLE *Verbosity*: can be shortened
 CHANGE by **rewriting the sentence** by
 omitting **performed** and replacing the **noun** by its related **verb**
 Proteins were **separated** by western blotting

Performs a function analogous to

Style: verbosity, can be shortened: replace by **acts like**

Perhaps even

See: [If not](#)

Period

a length of time

See: [Geological time](#)

ALERT Check that **period** *is not* used with words *implying time*

I shall do research here for a considerable **period of time**

ERROR *Tautology*: as **time** implies a **period**, one word is *superfluous*

CORRECT by using **one or the other**, not both, by

omitting **period of**

I shall do research here for a considerable **time**

omitting **of time**

I shall do research here for a considerable **period**

See: [Dot/full stop/period/point](#)

Period of time

Pleonasm: as **period** means a length of time, **time** is *superfluous*: use **period**

Perk

See: [Perquisite/prerequisite](#)

Permeabilise/permealise

permeabilise to make permeable The spermatozoa were **permeabilised** by Triton X-100

Permeable/permeant

permeable of a **membrane** or **channel**

allowing **solutes** to pass through

The nuclear membrane is **permeable** to propidium iodide

CatSper is a Ca²⁺-**permeable** channel

permeant of a **solute**

able to pass through a **membrane**

Dibutyryl cyclic GMP is a **permeant** cGMP analogue that activate the flagellum

Propidium iodide is a membrane-**permeant** solute

ALERT Check that **permeable** refers to a membrane

The effects of the **permeable** cryo-protectant glycerol was studied

ERROR *Syntax*: **permeable** refers the properties of a **membrane**, not a **solute**

CORRECT by using an adjective describing the properties **of a solute**

The effects of the **permeant** cryo-protectant glycerol was studied

Permit

causative **not** an auxiliary verb

See: [Allow/permit](#)

ALERT Check that **permits** refers to an **object**

This observation **permits to conclude** that transcription factors are involved

ERROR *Syntax*: **permits does not** govern an infinitive

CORRECT by

inserting a **human agent**

This observation **permits us to conclude** that transcription factors are involved

replacing **to conclude** by **the conclusion to be drawn**

This observation permits **the conclusion to be drawn** that transcription factors are involved

Perquisite/prerequisite

perquisite noun special privilege as a result of one's position (a **perk**)

A **perquisite** of the position was free admission to seminars

prerequisite noun something needed as a **prior** condition for something else

Sponsorship is not a **prerequisite** for any of our courses

adjective required as a pre-condition

The applicant must have the **prerequisite** skills

See: [Sine qua non](#)

ALERT Check that **prerequisite** *is not* used in conjunction with words *implying a requirement*

Anchoring of PKA to AKAP **requires** dimerisation as a **prerequisite**

ERROR Tautology: as a **prerequisite** implies a **requirement**, one word is **superfluous**

CORRECT by using **one or the other**, not both, by

omitting **as a prerequisite**

Anchoring of PKA to AKAP **requires** dimerisation

rewriting **the sentence** and omitting **requires**

Dimerisation is a **prerequisite** for anchoring of PKA to AKAP

Defining the patient's needs is a **prerequisite before** genetic counselling begins

ERROR Tautology: as a **prerequisite** is something needed as a **prior** condition, one word is **superfluous**

CORRECT by using **one or the other**, not both, by

replacing **a prerequisite** by **necessary**

Defining the patient's needs is **necessary before** genetic counselling begins

replacing **necessary before... begins** by **a prerequisite for**

Defining the patient's needs is a **prerequisite for** genetic counselling

Person/persons

See: [People/person/personnel/persons](#)

Personnel

See: [People/person/personnel/persons](#)

Perspective/point of view/standpoint/viewpoint

<i>perspective</i>	a two-dimensional representation of three-dimensional objects an opinion , a point of view, viewpoint	Read 'The theory and practice of perspective ' The students' perspective is different from the examiners'
<i>point of view</i>	an attitude , a way of considering a matter, perspective	I'm trying to get him to change his point of view
<i>standpoint</i>	a position giving a good view , viewpoint an attitude to a particular issue	To get a more central standpoint , move to the left She writes on religion from the standpoint of a believer
<i>viewpoint</i>	a position giving a good view , standpoint an opinion , a point of view, perspective	You can't see it all from this viewpoint I do try to put over our viewpoint in my seminars

NOTE Overused word: often used unnecessarily, replace by a **more relevant** phrase [or omit]

ALERT Check that **perspective** **is not** used informally

From the patients' **perspective**, the increase in research funding will be welcomed

ERROR Syntax: **perspective** is used informally

CORRECT by

replacing **perspective** by **viewpoint**

From the patients' **viewpoint**, the increase in research funding will be welcomed

rewriting **the sentence** by clarifying **whose viewpoint** it is

From the **viewpoint** of **those concerned with patient care**, the increase in research funding will be welcomed

rewriting **the sentence** by using **shorter phrases**

With regard to patient care, the increase in research funding will be welcomed

In its effect on patient care, the increase in research funding will be welcomed

ALERT Check whether **point of view** can be replaced by more **relevant words**

From the cell separation **point of view**, discontinuous density gradient centrifugation is preferable to swim-up

ERROR Syntax: **separation** is **insentient and cannot** have a point of view

CORRECT by rewriting **the sentence** by

omitting **point of view** and replacing **from** by **for**

Discontinuous density gradient centrifugation is preferable to swim-up **for** cell separation

replacing **is preferable to** by **provides better cell separation than**

Discontinuous density gradient centrifugation provides **better** cell separation **than** swim-up

ALERT Check that **standpoint** refers to people directly affected

From the patient care **standpoint**, the new results will give hope

ERROR Syntax: **patient care** is **insentient and cannot** have a standpoint

CORRECT by

using **subjects** who can have a **viewpoint**

From the standpoint of **those concerned with** patient care, the new results will give **patients hope**

rewriting **the sentence** by being **more specific**

With regard to patient care, the new results will provide **more possibilities**

In its effect on patient care, the new results will give **doctors more therapeutic options**

Perspective/prospective

<i>perspective</i>	noun	an opinion, a point of view, viewpoint	The students' perspective is different from the examiners'
<i>prospective</i>	adjective	likely to be or become a particular thing	This is a prospective antifertility agent for men

Persuade

See: [Convince/persuade](#)

Persuasion

See: [Certainly/surely](#), [Clearly](#), [Plain/plainly](#)

Pertaining to
about, on

Pertinent

See: [Apposite/appropriate/germane/pertinent/relevant](#)

Peruse/pore over/scrutinise

<i>peruse</i>	to examine carefully, to read, to study does not mean to look over casually	He perused the first draft of the manuscript
<i>pore over</i>	to study or read intently, to be absorbed in reading or studying	She was poring over the manuscript, so did not see us enter
<i>scrutinise</i>	to examine or inspect closely and thoroughly	He scrutinised the final draft for split infinitives

See: [Close scrutiny](#), [Detect/determine/examine/inspect](#)

Pervade/pervade through

<i>pervade</i>	to spread through and be perceived in every part of	The smell of the fixative pervaded the lab.
<i>pervade through</i>	as pervade implies a preposition, it needs no other preposition (<i>through</i>) after it	

Petri/petri dish

Petri dish Names (proper nouns) take an initial capital letter

See: [Common/proper nouns](#)

pH/Ph/PH/ph

pH the logarithm of the hydrogen ion (proton, H⁺) concentration
an index of neutrality (pH = 7) alkalinity (pH > 7) acidity (pH < 7)

Ph abbreviation of philosophy in Doctor of Philosophy (PhD)

Phagocytic/phagocytotic

phagocytic adjective related to the verb **to phagocytose**

See: [Back-formation](#)

Phenomena/phenomenon (Greek)

phenomena plural noun
phenomenon singular noun

Phonetics/phonology

phonetics how the sounds of a language are **articulated** and **perceived**

phonology grammatical component that determines the **sound pattern** of a language
includes an inventory of **phonemes**
how they may be **combined** to form a legitimate word
adjusted depending on neighbouring phonemes
patterns of intonation, timing, stress

See: [Pronunciation of phonemes](#)

Phosphorescence

See: [Fluorescence/phosphorescence](#)

Photo/photoes/photos

photo abbreviation of **photograph** (singular)
photos abbreviation of **photographs** (plural of photograph)

Physiologic/physiological

physiological relating to the normal functions of living organisms

Pipetted/pipeted

pipetted **pipette** is a **polysyllabic** word with a **short** vowel and emphasis on the **last** syllable
the final double consonant is **not changed** when adding a suffix (unless the consonant is L or R)

Pipetting/pipeting

pipetting **pipette** is a **polysyllabic** word with a **short** vowel and emphasis on the **last** syllable
the final double consonant is **not changed** when adding a suffix (unless the consonant is L or R)

Pitch/roll/yaw

pitch motion around the x-axis
roll motion around the z-axis
yaw motion around the y-axis

NOTE such motion is corrected for in cameras and drones by systems to stabilise images during photography

Pixel/voxel

pixel abbreviation of **picture element** minute area of illumination on a 2D-display screen from which an image is composed
voxel abbreviation of **volume element** each of an array of elements of a volume into which a 3D object is divided

Placebo

a substance with no therapeutic effect, used in drug trials as a control

Placebo effect

See: [Nocebo/placebo effect](#)

Plain/plainly

<i>plain</i>	adjective	not decorated or elaborate, simple or basic in character	The journal prefers the use of Plain English
<i>plainly</i>	adverb	clearly, obviously	He plainly does not use British English

NOTE the use of **plainly** inserts an element of **persuasion** or **pleading** that invites **scepticism** about the claim

NOTE *Overused word*: often used unnecessarily [**omit**]

ALERT Check whether the use of **plainly** is necessary

The bimodal distribution is **plainly** visible in Fig. 5

STYLE *Word usage*: if it is plain to see, there is **no need** to point it out

The use of **plainly** inserts an element of **persuasion** or **pleading** that invites **scepticism** about the claim

CHANGE by **omitting plainly**

The bimodal distribution is visible in Fig. 5

Plasma

See: [Blood/plasma/serum](#), [Fluid/plasma](#)

Please

See: [Kindly/please](#)

Pleiomorphic/pleiotropic (Greek)

<i>pleiomorphic (pleomorphic)</i>	the occurrence of more than one distinct form of an object	Spermatozoa in human semen are pleiomorphic
<i>pleiotropic (pleiotropic)</i>	the production by a single gene of two or more unrelated effects	We review the pleiotropic genetics of cancers

Plentiful

existing in or yielding large numbers, abundant, ample

ALERT Check that **plentiful** *is not* used with words *implying large numbers*

Plentiful numbers of spermatozoa could be aspirated from the corpus epididymidis

ERROR *Pleonasm*: as plentiful **means** in large numbers, one word is **superfluous**

CORRECT by **using one or the other**, not both, by **replacing plentiful** by **large**

Large numbers of spermatozoa could be aspirated from the corpus epididymidis

omitting numbers of

Plentiful spermatozoa could be aspirated from the corpus epididymidis

Pleomorphic

See: [Pleiomorphic/pleiotropic](#)

Pleonasm/tautology

pleonasm a form of **redundancy**

an **unnecessary pair of words** with one **duplicating** the meaning of the other
use (**one or the other**), not both, involves

absolutes	absolute certainty (certainty)	absolute minimum (minimum)	actual truth (truth)
	honest truth (truth)	true fact (true)	
	basic fundamentals (fundamentals)	definitely proved (proved)	extremely unique (unique)
	factual information (information)	complete opposite (opposite)	completely full (full)
	entire elimination (elimination)	entirely eliminated (eliminated)	totally abolished (abolished)
	total elimination (elimination)	end result (result)	
	final conclusion (conclusion)	first conceived (conceived)	initially introduced introduced)
adjectives	accidental mistake (mistake)	added bonus (bonus)	close scrutiny (scrutiny)
	free gift (gift)	linear row (row)	mutual exchange (exchange)
	necessary prerequisite (prerequisite)		new innovation (innovation)
	other alternative (alternative)	unconfirmed rumour (rumour)	
conjunctions	or alternatively (or)	so because (so)	
prepositions	from hence (hence)	from thence (thence)	from whence (whence)
age	old age (old)	young age (young)	
date	earlier date (earlier)	later date (later)	
explanations	reason why (reason)	way how (way)	
time	days' time (days)	weeks' time (weeks)	years' time (years)
	time period (time)	future plans (plans)	
	past achievements (achievements)	past experience (experience)	past precedents (precedents)
numbers	fewer numbers (fewer)	one single (one)	plentiful numbers (plentiful)
	some few (some)	sum total (total)	total sum (sum)
	two different (two)	various different (various)	
linkages	attach together (attach)	collaborate together (collaborate)	collect together (collect)

		collude together (collude)	combine together (combine)	connect together (connect)
		gather together (gather)	join together (join)	link together (link)
		meet together (meet)	merge together (merge)	minge together (minge)
		mix together (mix)	unite together (unite)	
linkage in time		refer back (refer)	reiterate again (reiterate)	repeat again (repeat)
		return back (return)	revert back (revert)	trace back (trace)
colours		blue colour (blue)	red-coloured (red)	
cost and price		cheap cost (cheap)	dear price (dear)	expensive cost (expensive)
shape		square shape (square)	round-shaped (round)	
size		large size (large)	small size (small)	equal halves (halves)
speed		fast speed (fast)	slow speed (slow)	
temperature		cold temperature (cold)	hot temperature (hot)	
values		index value (index)	temperature values (temperature)	
weight		heavy weight (heavy)	light weight (light)	
tautology	a form of redundancy			
	the use in a phrase of an unnecessary word whose meaning is repeated in a different word			
	use (one or the other), not both, involves			
	phrases	looking ahead to the future	(looking ahead/in the future)	
		cold in temperature	(cold/of low temperature)	
		cheap in price	(cheap/low in price/inexpensive)	
		dear in price	(dear/high in price/expensive)	
		few in number	(few/low in number)	
		oval in shape	(oval)	
		reason is because	(reason is/reason is that/because)	
		red in colour	(red)	
		small in size	(small)	
		variety of different	(variety of/different)	
	abbreviations	ISBN number N stands for number	International Standard Book Number	
		HIV virus V stands for virus	Human Immunodeficiency Virus	
		PDF file F stands for file	Portable Document File	
		PIN number N stands for number	Personal Identification Number	
		RAM memory M stands for memory	Random Access Memory	

See: [Redundancy/repetition](#)

Pleotropic

See: [Pleiomorphic/pleiotropic](#)

Plethora

See: [A/the plethora of... is/are](#), [Dearth/plethora](#)

Ploidy

the number of **complete sets** of chromosomes in a cell

ploidy number	the number of chromosome sets			
	monoploid (1 set)	diploid (2 sets)	triploid (3 sets)	
	generic term polyploid (≥ 3 sets)			
	tetraploid (4 sets)	pentaploid (5 sets)	hexaploid (6 sets)	hepta-/septa-ploid (7 sets)
	octaploid (8 sets)	nonaploid (9 sets)	decaploid (10 sets)	
	for ease of writing, speaking			
	11-ploid (undecaploid, 11 sets)		12-ploid (dodecaploid, 12 sets)	
	13-ploid (tridecaploid, 13 sets)		14-ploid (tetradecaploid, 14 sets) etc.	
monoploid number (x)	the number of chromosomes in a complete set			
chromosome number	the total number of chromosomes in all sets			
haploid (gametic) number (N)	the number of chromosomes in gametes			
diploid number (2N)	the chromosome number of a diploid organism			
zygotic number	the number of chromosome in zygotic cells			
for humans	monoploid number = haploid number = 23			
	zygotic number = diploid number = 46			
karyotype	lists the chromosome number/sex chromosome complement			
	euploid	females 46,XX	males 46,XY	

ploidy examples

species	ploidy	monoploid no.	chromosome no.
fruit fly	diploid	4	8
bat	diploid	22	44
human	diploid	23	46
guinea pig, horse	diploid	32	64
chicken	diploid	39	78
Eucalyptus (<i>Eucalyptus</i> spp.)	diploid	11	22
Banana (<i>Musa</i> spp.)	triploid	11	33
Coffee (<i>Coffea arabica</i>)	tetraploid	11	44
California redwood (<i>Sequoia sempervirens</i>)	hexaploid	11	66
Prickly pear (<i>Opuntia ficus-indica</i>)	octaploid	11	88

euploidy the state of a cell or organism having the **normal number** of chromosomes [46,XX/46,XY]
 when **disjunction** occurs (separation of chromatids at anaphase in mitosis, meiosis I and II)
euploid karyotypes have
 an exact **multiple** of the haploid number

names with the suffix **-ploidy**

one or more than one set of chromosomes

monoploidy (1 set) diploidy (2 sets) triploidy (3 sets)

aneuploidy the state of a cell or organism having an **abnormal number** of chromosomes
when **nondisjunction** occurs (failure of separation of chromatids at anaphase in mitosis, meiosis I and II)

aneuploid karyotypes have

no multiple of the haploid number

names with the suffix **-somy**

one or more than one individual chromosome that is

absent	X	Turner syndrome	(monosomy X)	[45,X or 45,X0]
extra	X	Klinefelter syndrome	(trisomy X)	[47,XXX/47,XXY]
	13	Patau syndrome	(trisomy 13)	[47,XX,+13/47,XY,+13]
	18	Edwards syndrome	(trisomy 18)	[47,XX,+18/47,XY,+18]
	21	Down syndrome	(trisomy 21)	[47,XX,+21/47,XY,+21]

See: [Chromosome/chromatid](#), [Mitosis/meiosis](#)

Plurality

See: [Majority/plurality](#)

Pluri-

See: [Multi-/pluri-](#), [Prefix list](#)

Plus/with

plus	preposition	with the addition of	Spermatogenesis was blocked by administration of androgen plus progestin The poster board will accommodate five posters plus borders Two plus two is four
	mathematics	addition	takes the singular does not mean and, additionally, in addition is not a conjunction
with	preposition	having or possessing something	The patients with infertility are treated on Tuesdays and Thursdays The permitted poster size with border is 2 m by 1 m The infertile patients with infections were treated with antibiotics
		indicating the agent or instrument used	

See: [And/with](#), [Mathematical comparators/operators](#), [Minus/plus](#), [Together with/with](#)

ALERT Check that **plus is not** used as a **conjunction**

I have the surgical instruments **plus** disinfectant

ERROR *Syntax:* **plus** is a **preposition** used here as a **conjunction**

CORRECT by **replacing plus** by **and**

I have the surgical instruments **and** disinfectant

ALERT Ensure that the use of **with does not** introduce confusion

We routinely treat patients **with** a positive semen culture **with** antibiotics

ERROR *Semantics:* discourteous, the reader **expects** the treatment of the patients to follow the **first with** and **then realises otherwise** [the treatment follows the **second with**]
so **this could be interpreted as** patients' being treated with

a positive semen culture [the first **with** as part of the verb **to treat with**]

or

antibiotics [the first **with** referring to the **patients**]

CORRECT [if the patients were treated **with antibiotics**] by

replacing the first **with** by **presenting with** or **who have**

We routinely treat patients **presenting with/who have** a positive semen culture **with** antibiotics

It is crucial to treat patients **with** positive bacterial cultures to reduce the contamination off embryos

ERROR *Semantics:* discourteous, the reader **expects** the treatment of the patients to follow **with** and **then realises otherwise** [**with** is followed by the characteristics of the patients]

so **this could be interpreted as**

the bacterial cultures are used **to reduce contamination** [**with** as part of the verb **to treat with**]

or

the bacterial cultures are used **to characterise the patients** [**with** referring to the **patients**]

CORRECT [if the **latter** is meant] by

replacing with by **presenting with** and **inserting the treatment used**

It is crucial to treat patients **presenting with** positive bacterial cultures **with antibiotics** to reduce the contamination of embryos

replacing with by **who have** and **inserting the treatment used**

It is crucial to treat patients **who have** positive bacterial cultures **with antibiotics** to reduce the contamination of embryos

p.o. (Latin)

abbreviation of **per os** by mouth, orally Ornidazole was administered at a dose of 120 mg/kg **p.o.**

See: [Enteral/parenteral](#)

-poenia

See: [Hypercorrection](#), [Suffix list](#)

Point

See: [Dot/full stop/period/point](#)

Point of view

See: [Perspective/point of view/standpoint/viewpoint](#)

Poisson distribution

See: [Gaussian/non-Gaussian distributions](#)

Polemic/polemical/polemics

<i>polemic</i>	noun	a strong verbal or written attack on someone or something	Many see this review as a polemic against folk medicine
<i>polemical</i>	adjective	involving strongly critical or disputatious writing or speech	This is a polemical thesis
<i>polemics</i>	noun	the practice of engaging in controversial debate or dispute	The history of science became embroiled in religious polemics

See: [Plain English](#)

Politics

the activities associated with the governance of a country or area

Politics is/are

politics is considered a **singular and plural** noun **Politics** now *is* the preserve of despised professionals
Unfortunately, **politics** *are* now interfering with hospital management

Ponder/ponder on

<i>ponder</i>	to think about something carefully, especially before reaching a conclusion	I shall ponder your comments
<i>ponder on</i>	as ponder means to think about , it needs no additional preposition (on) after it	

Population-based control groups

See: [Population-/subject-based control groups](#)

Pore over

See: [Peruse/pore over/scrutinise](#)

Portend

See: [Augur/bode/portend](#)

Portent

See: [Auspicious/portent](#)

Portmanteau words

See: [Word formation](#)

Position

a location	The position of the microscope made it difficult for the technician to clean
a way of being placed or arranged	He felt less pain in a reclining position
a situation, especially as it affects the power to act	I am in no position to assess this thesis

NOTE *Overused word:* often used unnecessarily [**omit**]

ALERT Check whether the use of **position** should be **avoided**

They now find themselves in a **position** where they have to make a choice

STYLE *Verbosity:* can be shortened

CHANGE by **omitting** *find themselves in a position where they*

They now have to make a choice

Positive regulation

See: [Negative/positive regulation](#)

Positive situations

See: [Negative/positive contexts](#)

Possess

to have, to own

Possessive case

See: [Genitive \(possessive\) case](#)

Possible/probable

<i>possible</i>	can or may happen	It is possible that I shall win the poster prize
<i>probable</i>	more likely to happen than not	It is probable the best speaker will win the poster prize

Possible that

able to be done or achieved, may exist or happen

used when there is **insufficient evidence** for a conclusion to be drawn

expressed by the following verb in the **declarative** mood It is **possible** that these cells **are** stem cell precursors

See: [Certainty/uncertainty](#), [Quotations](#)

ALERT Check that **possible is not** used with words **reflecting uncertainty**

It is **possible** that it **could** happen

ERROR *Tautology*: as both **possible** and **could** imply **uncertainty**, one word is *superfluous*

CORRECT by using **one or the other**, not both, by

replacing **could** by **will**

It is **possible** that it **will** happen

omitting it is possible that

It **could** happen

Possibility

See: [Alternative/choice/option/possibility](#)

Post-/pre- (Latin)

post- prefix after in time or order

Post-operative recovery [recovery occurring after an operation]

Post-treatment animals [animals having undergone treatment]

is not a preposition

pre- prefix before in time, place, order, degree or importance We rely on **pre-surgical** intervention with drugs

We can't operate on **pre-pubescent** children

is not a preposition

NOTE Overused prefix: often used unnecessarily [**omit**]

ALERT Check that the prefix **pre-** and **post-** **are not** used as prepositions

Fertility was high **pre** treatment

ERROR *Semantics*: **pre** is a prefix not a preposition

CORRECT by

replacing **pre** by **before**

Fertility was high **before** treatment

rewriting the sentence with a hyphenated adjective

Pre-treatment fertility was high

Fertility was reduced **post** treatment

ERROR *Semantics*: **post** is a prefix **not** a preposition

CORRECT by

replacing **post** by **after**

Fertility was reduced **after** treatment

rewriting the sentence with a hyphenated adjective

Post-treatment fertility was reduced

Post hoc ergo propter hoc (Latin)

See: [Cum/post hoc ergo propter hoc](#) (Latin)

Post hoc fallacy

See: [Cum/post hoc ergo propter hoc](#) (Latin)

Postfixes

See: [Ad-/circum-/in-/inter-fixes](#), [Suffix list](#)

Postpositions

See: [Adpositions](#)

Post mortem

See: [Autopsy/post-mortem](#)

Post hoc (Latin)

See: [Ad/post hoc](#)

Post-thawed spermatozoa

Style: verbosity; can be shortened; as **post** means after, spermatozoa after thawing are thawed; **post** is *superfluous*: use **thawed**

See: [Frozen/frozen-thawed/thawed](#)

Postulate that

to suggest or to assume the existence, fact or truth of something as a basis for belief, discussion or reasoning

used when there is **insufficient evidence** for a conclusion to be drawn

expressed by the following verb in the **declarative** mood We **postulate that** the enzyme **is** activated by dietary zinc

See: [Certainty/uncertainty](#)

Potential

See: [Aptitude/potential](#)

pp (Latin)

abbreviation of **per pro./per procuratum** on behalf of, by the agency of
 written as Yours sincerely, Yours sincerely,
President's name or **p.p.** *Secretary's signature*
p.p. *Secretary's signature* *President's name*

Practicable/practical/practicality

<i>practicable</i>	adjective	able to be done, feasible	The new method will be introduced as soon as practicable
<i>practical</i>	adjective	capable (of people) worth doing (of things)	He is a practical technician That is a very practical solution to the problem
<i>practicality</i>	noun	being suited for a purpose well, functionality	Before its introduction the practicality of a test has to be proved

See: [Feasible/unfeasible](#), [Impracticable/impractical](#)

Practice/practise

<i>practice</i>	noun	the actual application of an idea or method, as opposed to theories relating to it We recommend students read the Principles and Practice of Writing Scientific Papers the customary, habitual or expected procedure for doing something Modern practice includes whole genome sequencing repeated exercise in or performance of an activity to maintain proficiency in it She used to have English pronunciation practice every Tuesday	
	verb	confusion with American English	
<i>practise</i>	noun	confusion with American English	
	verb	to perform an activity or exercise a skill repeatedly to acquire proficiency	She used to practise English pronunciation weekly

See: [Spelling and semantics](#)

Pre- (Latin)

See: [Prefix list](#), [Post-/pre-](#)

Pre-adsorbed antibodies

antibodies that have had some component adsorbed (e.g. by antigen) **before** use

Style: **pre** is *unnecessary*, **adsorbed** alone is *sufficient*

Pre-coated plates

plates that have been coated **before** use

Style: **pre** is *unnecessary*, **coated** alone is *sufficient*

Pre-conditions

conditions that need to be satisfied **before** an agreement or things can proceed

Style: **pre** is *unnecessary*, **conditions** alone is *sufficient*

Pre-conditioned media

media that have been conditioned in some way (e.g. aerated, equilibrated) **before** use

Style: **pre** is *unnecessary*, **conditioned** alone is *sufficient*

Pre-conceived idea

an idea formed **before** having the evidence for the truth or usefulness of a concept

Pre-planning

planning done **before** an event

Style: **pre** is *unnecessary*, **planning** alone is *sufficient*

Pre-recorded tapes

tapes that have been recorded (*i.e.* not blank) **before** use

Style: **pre** is *unnecessary*, **recorded** alone is *sufficient*

Pre-requisite

See: [Perquisite/pre-requisite](#)

Pre-selected samples

samples that have been selected **before** an experiment

Style: **pre** is *unnecessary*, **selected** alone is *sufficient*

Pre-thawed samples

samples that are used **before** being thawed

Semantics: as samples **before** thawing would still be **frozen**: use **frozen**

See: [Frozen/frozen-thawed/thawed](#)

Pre-treatment samples

samples examined **before** any experimental treatment is applied

Semantics: as samples **before** treatment would be **untreated**: use **untreated**

Preceding/preceding

preceding coming before in order, position or time

Precise

See: [Accurate/precise](#)

Precision

See: [Accuracy/dispersion/precision](#)

Predicate

See: [Sentences](#)

Predicative adjective

See: [Attributive/predicative adjective](#)

Predictive for/of

predictive of having the effect of predicting an event or result

Predominant/prominent

predominant prevailing, present as the main element

prominent standing out so as to be noticeable

Predominant mechanism

Style: verbosity, can be shortened: replace by **main way**

Prefer

to like better

ALERT Check that **prefer is not** used with words *implying a comparison*

I **prefer** this equipment **better**

ERROR *Tautology:* as **prefer** means to like **better**, word is *superfluous*

CORRECT by using **one or the other**, not both, by

omitting better

I **prefer** this equipment

replacing prefer by like

I **like** this equipment **better**

Prefer... to/over/than/rather than

prefer... to followed by a **noun** She **prefers fine scissors to a scalpel**

prefer... rather than followed by an **infinitive** He always **preferred to travel** by bus **rather than** by taxi

a **gerund** She always **preferred travelling** by plane **rather than** by train

See: [Instead/instead of/rather than/rather... than](#)

ALERT Check whether it is less clumsy to use a **gerund** or **infinitive**

He **prefers** to write **rather than** to telephone

STYLE *Verbosity:* can be shortened

CHANGE by **replacing infinitives** by **gerunds**

He **prefers writing to telephoning**

Would you **prefer to present** a poster **rather than** a talk?

STYLE *Verbosity:* can be shortened

CHANGE by **replacing prefer** by **rather ... than**

Would you **rather** present a poster **than** a talk?

Preference of/for

preference for a greater liking for one alternative over another

Prehensile

capable of grasping One difference between New- and Old-World monkeys is the **prehensile** tail in the former

See: [New/Old World monkeys](#)

Preliminarily/preliminary

preliminarily adverb in preparation for something more complete

defining a **verb** We've **looked preliminarily** at what the alternatives might be

an **adjective** He tested **preliminarily positive** for Covid

preliminary adjective done in preparation for something more complete
 defining a **noun** Here is my **preliminary draft** of the manuscript
 This is a **preliminary result**, to be confirmed

See: [Preliminary/preparatory to](#)

Preliminary/preparatory to

preliminary to quasi-adverb in advance of, before The archaeological excavation is a necessary **preliminary to** our project
preparatory to quasi-adverb in preparation for, before He put on his lab. coat **preparatory to** entering the culture room

See: [Prepositions](#)

Prepare

to make **something** ready for use The **semen** was **prepared** for artificial insemination
 to make **someone** ready for an event The **patients** were **prepared** to undergo artificial insemination

ALERT Check which meaning of **prepared** is meant

We studied the seminal plasma of patients **prepared for** artificial insemination (AI)
ERROR *Semantics*: ambiguous, it is **unclear** what or who was prepared for AI, the **patients** or the **seminal plasma**
 so **this could be interpreted as** the study of
 the seminal plasma of **patients prepared to undergo** AI
 or
 the [unprocessed] **seminal plasma before** preparation for AI
 or
 the [processed] **seminal plasma after** preparation for AI

CORRECT [if the 1st is meant] by
replacing prepared for by prepared to undergo
 We studied the seminal plasma of patients **prepared to undergo** artificial insemination (AI)

CORRECT [if the 2nd is meant] by
omitting of patients and being specific
 We studied the **unprocessed** seminal plasma **before preparation** for artificial insemination (AI)

CORRECT [if the 3rd is meant] by
omitting of patients and being specific
 We studied the **processed** seminal plasma **after preparation** for artificial insemination (AI)

Prescribe/proscribe

prescribe set down as a rule or guide The doctor may **prescribe** contraceptives for fertile patients
proscribe to denounce or to prohibit A doctor may **proscribe** smoking for infertile patients

Prescriptive

See: [Descriptive/prescriptive/proscriptive grammar](#)

Present

See: [Count/present](#)

Present/present with

present to show something for someone to consider The student **presented** a summary of this thesis
 [only people can make presentations]
present with to show symptoms of [clinical usage] The patient **presented with** infertility and diabetes

See: [Actual/current/present](#)

ALERT Check that **presents** relates to an object **capable of presenting**

Figure 6 **presents** the change of semen osmolality with time
ERROR *Syntax*: a **Figure** is **insentient and cannot** make presentations
CORRECT by **changing the verb** from the **active to passive** voice
 In Figure 6 **is presented** the change in semen osmolality with time
 The change in semen osmolality with time **is presented** in Figure 6

Presumably/presumptive/presumptuous

presumably adverb what is asserted is very likely but not certain She will **presumably arrive** tomorrow
 She will **arrive** tomorrow, **presumably**
Presumably, she will arrive tomorrow
 [It is **presumed** that she will arrive tomorrow]
presumptive adjective presumed in the absence of further information It starts later because of the speaker's **presumptive** late arrival
presumptuous adjective failing to observe the limits of what is appropriate He was **presumptuous** in offering unwanted advice

Presume

See: [Assume/presume](#)

Presumptuous/presumptious

presumptuous failing to observe the limits of what is permitted or appropriate

Pretend

auxiliary verb followed by a full **infinitive**

to behave so as to make it appear that something is the case when it is not That supervisor **pretends to help** you

See: [Irony/sarcasm/sardonicism](#)

Prevalence/prevalent

<i>prevalence</i>	noun	the fact of being prevalent	in a particular area or at a particular time	The prevalence of flu is currently low
<i>prevalent</i>	adjective	widespread or common	in a particular area or at a particular time	Flu is now the prevalent disease

See: [Incidence/incident](#), [Incidence/prevalence](#)

Prevaricate/procrastinate

<i>prevaricate</i>	to speak or act evasively, to stray from the truth	He prevaricated when challenged to support his hypothesis with solid arguments
<i>procrastinate</i>	to delay an action, to put off doing something	Her procrastination in signing the co-author disclaimer form will delay publication

Prevent/stop

<i>prevent</i>	to stop something from existing or happening	The sterile work bench has a micro-filter fitted to prevent contamination
<i>stop</i>	to come to an end, to cease, to end something that exists to abandon a specified habit	After six days the cultures were stopped and RNA was extracted from the cells He stopped smoking

See: [Avoid/prevent](#), [Quit/stop](#)

Preventive/preventative

preventive from the verb **to prevent**

See: [Back-formation](#)

Preview

See: [Overview/preview/review](#)

Previous

existing or occurring before in time or order

ALERT Check that **previous is not** used with words **implying an earlier time**

Previous work **published** by Li et al. is at variance with our results

ERROR *Tautology*: as published data **can only be** of previous work and **must have appeared** before the current time, one word is **superfluous**

CORRECT by **using one or the other**, not both, by

omitting published

Previous work by Li et al. is at variance with our results

omitting previous

Work **published** by Li et al. is at variance with our results

Previous to

quasi-adverb (informal) before Submit it the month **previous to** publication

See: [Plain English](#), [Prepositions](#)

Price

See: [Cost/price](#)

Prima facie (Latin)

literally	at first appearance, at first sight	legal term	referring to obvious evidence that a crime has been committed
figuratively	on the face of it	non-legal use	This is prima facie evidence that quinine affects sperm ion channels

Prime numbers

See: [Composite/perfect/prime numbers](#), [Irrational/rational numbers](#)

Principal/principle

<i>principle</i>	noun	a fundamental truth, governing behaviour	The buoyancy principle permits cell separation by density gradient centrifugation
<i>principal</i>	adjective	chief, main, first in order of importance	The epididymis contains apical, basal, clear, principal and narrow cells The spermatozoon comprises a head, midpiece, end-piece and principal piece

Prior/prior to

<i>prior</i>	adjective	coming before in time, order or importance	I can't go as I have a prior appointment
<i>prior to</i>	quasi-adverb (informal)	as a necessary preliminary to, before	Students must pay their fees prior to the examination

See: [After/subsequent/subsequent to](#), [Before/in advance of](#), [Plain English](#), [Prepositions](#), [Prior/subsequent](#)

Prior/subsequent

<i>prior</i>	adjective	coming before in time, order or importance no adverbial form	He cannot attend the meeting because he has a prior appointment
<i>subsequent</i>	adjective	coming after in time, order or importance adverbial form subsequently	The subsequent secretion of testosterone induced epididymal growth

See: [After/subsequent/subsequent to](#), [Subsequent/subsequently](#)

ALERT Check that **prior is not** used with a word meaning **previously**

You need **prior** consent **before** entering the sterile area

ERROR *Tautology*: as **prior** implies happening **before**, one word is **superfluous**

CORRECT by **using one or the other**, not both, by

omitting prior

You need consent **before** entering the sterile area

replacing before entering by to enter

You need **prior** consent **to enter** the sterile area

Prior to

See: [Prior/prior to](#)

Prior to that time

Style: verbosity, can be shortened: replace by **before that/then**

See: [Before/in advance of](#)

Prioritise

to order, to place in order of priority, to rank

Prise/pry

prise to use force in order to move, to move apart, to open something

I had to **prise** open the incubator door when the electronic lock failed

pry to enquire too inquisitively into a person's private affairs

I was annoyed at her **prying** into my affairs

does not mean prise confusion with **American English**

Pro bono (Latin)

abbreviation of **pro bono publico** for the public good legal work done for no charge

Pro tem. (Latin)

abbreviation of **pro tempore** for the time, temporary He was President of the Society **pro tem.**

Pro/con

See: [Con/pro](#)

Probable

See: [Possible/probable](#)

Probable that

used when there is **insufficient evidence** for something being likely to happen or be the case

expressed by the following verb in the **declarative** mood It is **probable** that the cells **are** lost by apoptosis

See: [Certainty/uncertainty, Quotations](#)

ALERT Check that **probable is not** used with words **reflecting uncertainty**

It is **probable** that it **may** happen

ERROR *Tautology*: as both **probable** and **may** imply **uncertainty**, one word is **superfluous**

CORRECT by **using one or the other**, not both, by

replacing may by will

It is **probable** that it **will** happen

omitting it is probable that

It **may** happen

Probably

adverb more likely than not, it is probable that
beginning a sentence, describes the whole clause

She **probably** learned the technique at Harvard

Probably, she learned that technique at Harvard

[It is **probable** that she learned that technique at Harvard]

Probably, he expected her **to write first** to the Editor

[It is **probable** that he expected her to write first to the Editor]

Proband/proband/test subject

Proband confusion with **German**

proband an individual with a genetic disorder leading to the investigation of the individual's family

test subject a person on whom a treatment or drug is tested as part of a controlled study

Probe/sample

probe verb to explore manually with an instrument or chemical

The gels were **probed** with specific antibodies

noun a small blunt instrument or device for obtaining information

A closed-end cannula was used as **probe** to reveal luminal patency

A thermal needle-**probe** was used to check epididymal temperature

Probe confusion with **German**

sample noun as a specimen taken for scientific testing or analysis

They provided several semen **samples**

ALERT Check that **detect** is the **intended word**

The same gels were **detected** with the anti-ZP3 antibody
 ERROR *Semantics*: this implies that **the gels** were detected
 CORRECT [if the **proteins** in the gels were detected] by
 replacing **detected** by **probed**
 The same gels were **probed** with the anti-ZP3 antibody

Problem

See: [Issue/problem](#)

Problematic/problematical

constituting or presenting a problem His **problematic** use of American English caused delays to publication
 For publishing in this journal his use of American English was **problematical**

Procede/proceed

proceed to begin a course of action

Procedure/process/technique

procedure	an established way of doing something	An histochemical procedure was used to examine sperm morphology
process	events occurring or actions taken to achieve a particular end	The spermatogenic process involves many steps in germ cell formation
technique	a way of carrying out a particular task	Two techniques of making semen smears are described in the manual

NOTE *Overused words*: often used unnecessarily, replace by **what the procedure/process/technique was** [or omit]

ALERT Check whether **process/technique** can be omitted

Agents that cause oxidative sperm DNA damage determine the outcome of **the ICSI technique**

STYLE *Verbosity*: can be shortened; ICSI **is** a technique,

CHANGE by **omitting the** and **technique**

Agents that cause oxidative sperm DNA damage determine the outcome of **ICSI**

Several proteins are involved in **the amino acid phosphorylation process**

STYLE *Verbosity*: can be shortened; phosphorylation **is** a process

CHANGE by **omitting the** and **process**

Several proteins are involved in **amino acid phosphorylation**

ALERT Check that **procedure** is the intended word

The expression of miRNAs increased during germ cell development in parallel with post-transcriptional control of this **procedure**

ERROR *Syntax*: germ cell **development is not** a procedure

CORRECT by **replacing procedure** by **process**

The expression of miRNAs increased during germ cell development in parallel with post-transcriptional control of this **process**

Proceed/proceeds

proceed	verb	to begin a course of action	She has proceeded with a course of Plain English
proceeds	verb	3 rd person singular of the verb to proceed	Despite influenza he proceeds with the fund-raising event
	noun	money obtained from an event or activity	The proceeds of the lecture meeting were given to charity

Proceeds is/are

are	proceeds is a plural noun that has no singular	The proceeds were given to charity
	the singular form takes a partitive construction	The proceeds of this year's sale exceed last year's
		Only a small part of the proceeds goes towards administrative fees

Process

See: [Procedure/process/technique](#)

Proclaim

See: [Claim/proclaim](#)

Procrastinate

See: [Prevaricate/procrastinate](#)

Produce

to secrete, to synthesise

Produced a significant inhibitory/stimulatory effect

Style: verbosity, can be shortened: replace by **significantly inhibited/stimulated**

Produced a significant reduction in the percentage of fertilised eggs

Style: verbosity, can be shortened: replace by **significantly reduced fertilisation**

Production

See: [Development/production](#)

Prof/Prof./Profs/Prof.s

Prof. abbreviation of professor
Profs abbreviation of professors

See: [Abbreviation/acronym/contraction/initialism](#)

Profile

See: [Pattern/profile](#)

Progenies/progeny

progeny a descendant or the descendants of a person, animal or plant; offspring
progeny is both *singular* and *plural*
 can take a *partitive* construction

The sole **progeny** *was* a small chimaeric male
 All the transgenic **progeny** *were* healthy
 Usually *one of* the **progeny** *dies* every two days

Prognosis

See: [Diagnosis/prognosis](#)

Prognostic

See: [Diagnostic/diagnostics/prognostic](#)

Prognosticate

See: [Diagnose/prognosticate](#)

Program/programme

program a series of **coded software instructions** to control the operation of a **computer**
 To be able to use these statistics you'll need to download and install the relevant software **program**
programme a **set of related measures** with a particular long-term aim
 Treatment consists of a long-term **programme** of physical activity and, when necessary, anti-inflammatory drugs

Progress/progresses

progress noun development to an improved or more advanced condition
progress is a **mass noun**, which **has no plural**
 the **plural** form takes a *partitive* construction

progresses verb to move forward or onward in time or space
 3rd person singular of the verb **to progress**

Good **progress** *is* being made in his studies
Signs of progress *were* seen at the meeting
 With new materials microscope design has **progressed**
 His culture technique **progresses** satisfactorily

See: [Advance/progress](#)

Progressive/progressively

progressive adjective describing a **noun**
progressively adverb describing an **adjective**

There were two million **progressive** *spermatozoa* in the sample
 There were two million **progressively** *motile* spermatozoa in the sample

Prohibit

See: [Forbid/prohibit](#)

Prolix/prolixity

prolix adjective tediously lengthy, using or containing too many words, verbose
prolixity noun the use of too many words, verbosity, verbiage

Plain English requires the removal of **prolix** text
 Plan English contains no **prolixity**

See: [Grammar/style, Verbiage/verbose/verbosity](#)

ALERT Ensure that the reader will not **lose the meaning** in too much text

It will be seen upon examination of Table 5 that in a considerable number of cases after sedimentation by centrifugation the cells exhibited a significantly reduced ability to fertilise eggs. Taking into consideration the fact that fertility is reduced, in this connection the statement may be made that the negative modulation of the cells performs a function analogous to that of some naturally infertile males. It is worth pointing out in this context that the results are in agreement with those in reports that have been published previously regarding natural infertile males.

STYLE *Word usage:* verbosity

CHANGE by **removing** the *unnecessary*, the *irrelevant* and the *unimportant*

Table 5 shows that in most cases after centrifugation the cells fertilised significantly fewer eggs. These results confirm those reported for some naturally infertile males.

Prolong/prolongate

prolong to extend the duration of

See: [Back-formation](#)

Prominent

See: [Predominant/prominent](#)

Promise

See: [Expectation/promise](#)

Prompt

prompt adjective done without delay, immediate
 noun an act of encouragement to a hesitant speaker

Her **prompt** action prevented the fire spreading outside the culture room
 The supervisor gave **prompts** to the student only after prolonged hesitation

verb to cause an action (of an event or fact) He used the images on his slides to **prompt** what he planned to say
[*only people* can **prompt** or **be prompted**]

See: [Immediately/promptly/quickly/soon](#), [Quick/quickly](#)

ALERT Check which relevant part of speech function of **prompt** is required

This facilitates neoplasia by eliminating pathogens and **prompt** resolution of inflammation
ERROR *Semantics*: ambiguous, as there is **no comma** before the conjunction, **eliminating** applies to both **pathogens** and **resolution**; it is unclear whether **prompt** is used as an **adjective** or **verb**
 so **this could be interpreted as** a neoplasm's being facilitated by
 eliminating the pathogens and **eliminating** the resolution of inflammation [prompt as an **adjective**] (inflammation is **not resolved**)
 or
 eliminating the pathogens and **prompting** the resolution of inflammation [prompt as a **verb**] (inflammation is **resolved**)

CORRECT [if the **former** is meant] by

inserting by preventing the

This facilitates neoplasia by **eliminating** pathogens and **by preventing the** prompt resolution of inflammation

CORRECT [if the **latter** is meant] by

inserting a comma before **and** to join two phrases of **equal importance**

This facilitates neoplasia by eliminating pathogens, **and** prompt resolution of inflammation

replacing eliminating by the elimination of and **inserting the**

This facilitates neoplasia by **the elimination of** pathogens and **the** prompt resolution of inflammation

These results **prompt** a regulatory role of Notch signalling in epididymal function

ERROR *Syntax*: **results** are **insentient and cannot** prompt anything

CORRECT by

replacing prompt by suggest/are consistent with

These results **suggest/are consistent with** a regulatory role of Notch signalling in epididymal function

inserting a human element and infinitive

These results **prompt us to suggest** a regulatory role of Notch signalling in epididymal function

Prone/prostrate/recumbent/repose/supine

prone lying face down
prostrate lying face down, throwing oneself down in submission or protection
recumbent lying flat in any position in comfort, repose
repose lying flat in any position in comfort, recumbent
supine lying face up

Prone to

See: [Liable/prone to](#)

Proof/proofs/prove/proves

proof mass noun evidence establishing the truth of a statement
 proof is a mass noun, which **has no plural**
 the plural form takes a **partitive** construction
 count noun a trial impression of a page for making corrections
 adjective denoting a trial impression of a page
 verb to read proofs for errors, to proofread
proofs plural of the **count noun** proof
 3rd person singular of the verb **to proof**
 You will be asked to give **proof** of your identity
Examples of acceptable **proof are** found in the guideline
 Please check the **proof** for errors and return it within 48 h
 You will be sent in due course a **proof** copy for checking
 I have **proofed** much of her work
 You'll receive the **proofs** in about a week
 He **proofs** them every day before leaving for home

Proper

denoting something that is truly what it is said or regarded to be, genuine
 strictly so called, in its true form
 of the required type or form, suitable or appropriate
 She's never had a **proper** job
 After the mock exams, the students will sit the examinations **proper**
 A surgeon needs the **proper** instruments
 They had not followed the **proper** procedures

ALERT Check that it is clear what **proper** refers to

We sought the concentration of Ca²⁺ required for **proper** sperm motility
ERROR *Semantics*: ambiguous, **it is unclear** what **proper** sperm motility is: what is improper motility?
CORRECT by **replacing proper by more specific** adjectives
 We sought the concentration of Ca²⁺ required for **maximum/optimum/hyperactivated** sperm motility

Proper adjectives

See: [Adjectives](#)

Proper nouns

See: [Common/proper nouns](#)

Prophecy/prophecy

prophecy noun They gave a bleak **prophecy** of the unit's future funding
prophecy verb He **propheesied** that we'd get the European funding

See: [Spelling and semantics](#)

Proportion

NOTE Vague word: often used unnecessarily, be more exact **[or avoid]**

See: [Fraction/percentage/proportion/ratio](#)

Proportion is/are

See: [A/the proportion is/are](#)

Proportion of

Style: verbosity, can be shortened: replace by **some**

Proportion of... is/are

See: [A/the proportion of... is/are](#)

Proportions/ratios

a ratio of	1:1 or (1-to-1)	combines one part with	one part (1+1)	a total of	2 parts	a proportion of	1/2 or (1-in-2)
	1:2 (1-to-2)		two parts (1+2)		3		1/3 (1-in-3)
	1:3 (1-to-3)		three parts (1+3)		4		1/4 (1-in-4)

NOTE a ratio of 1:3 (1-to-3) has a total of 1 + 3 (= 4) parts, so is a proportion of 1/4 or (1-in-4)
 a proportion of 1/3 (1-in-3) has a total of 1 + 2 (= 3) parts, so is a ratio of 1:2 (1-to-2)

See: [Fraction/percentage/proportion/ratio](#)

Propose that

used when there is **insufficient evidence** for a conclusion to be drawn

expressed by the following verb in the **declarative** mood **We propose** that cells **are** lost owing to apoptosis
[only people can make propositions]

See: [Certainty/uncertainty, Moods of verbs, Quotations](#)

ALERT Check that the verb following **proposed that** is in the **declarative** mood

It has been **proposed that** this enzyme **could use** protamine cysteine residues as substrate

ERROR *Semantics:* **propose that** is followed by a verb in the **conditional not declarative** mood

CORRECT [if there is **sufficient** evidence] by

using the **declarative** mood

It has been **proposed that** this enzyme **uses** protamine cysteine residues as substrate

CORRECT [if there is a **condition**] by

providing the **condition**

It has been **proposed that** this enzyme **could use** protamine cysteine residues as substrate **if they are on membranes close to the chromatin coils**

CORRECT [to emphasise **uncertainty**] by

omitting **It has been proposed that**

This enzyme **could use** protamine cysteine residues as substrate

ALERT Check that **propose** applies to people

Some trials **propose** that elevated cytokine levels have no relationship with semen quality

ERROR *Syntax:* trials are **insentient and cannot** propose anything

CORRECT by replacing **trials** by **trial results** and **propose** by **indicate**

Some **trial results indicate** that elevated cytokine levels have no relationship with semen quality

Proscribe

See: [Prescribe/proscribe](#)

Proscriptive

See: [Descriptive/prescriptive/proscriptive grammar](#)

Prospective

See: [Perspective/prospective](#)

Prostatic/prostate

prostate noun the organ
 as **noun adjunct**
prostatic adjective of the prostate

The **prostate** is a male secondary sexual organ
 Surrounding the urethra is the **prostate gland**
Prostatic weight decreases after castration
Prostatic cancer occurs in old age

Prostrate

See: [Prone/prostrate/recumbent/repose/supine](#)

Proteasome/proteosome

proteasome a complex of proteinases involved in breaking down selected intracellular proteins

Protein symbol nomenclature

See: [Gene/protein symbol nomenclature](#)

Protest/protest against

<i>protest</i>	to affirm something against those who would deny it	The students protested their right to be present at the meeting
<i>protest against</i>	publicly to demonstrate an objection to an official policy	The students protested against the raising of hostel fees

Prove/proves

<i>prove</i>	verb	to demonstrate the truth of something by evidence	She has proved that intracellular osmolytes are involved
<i>proves</i>	3 rd person singular of the verb	to prove	He proves his worth as a technician every day

Prove that

used when there is **sufficient evidence** for a conclusion to be drawn
 expressed by the following verb in the **declarative** mood Our observations **prove that** the proteins **are** androgen-dependent

Proved/proven

<i>proved</i>	past tense	of the verb to prove	Last year he proved that quinine causes sperm swelling
	past participle	of the verb to prove	The hypothesis has not yet been proved to be correct
<i>proven</i>	past participle	of the verb to prove	The hypothesis has not yet been proven to be correct
	attributive adjective		The student has a proven ability to work hard

NOTE interchangeable past participles

See: [Proof/proofs/prove/proves, Testify](#)

Proved to be

Style: verbosity, can be shortened: replace by **were**

Proverb

See: [Cliché/idiom/proverb](#)

Provide

See: [Collect/obtain/provide/retrieve, Gain/provide, Provide for/with, Provided by/that/with](#)

Provide for/with

<i>provide for</i>	to make adequate preparation for an event	The laboratory design must be flexible enough to provide for changes in technology
<i>provide with</i>	to make available for use, to supply	All students were provided with the instructions to operate the autoclave

Provided by/that/with

<i>provided by</i>	participle followed by a preposition	the manner of providing	Semen was provided by masturbation
<i>provided that</i>	conjunctive phrase	in the case that, on the condition that	He can do it, provided that the equipment is working
<i>provided with</i>	participial phrase	if he were given	Provided with the necessary equipment, he can do it

See: [Gain/provide](#)

Proving

non-finite forms of the verb to prove
 a **participle** (verbal adjective) and **gerund** (verbal noun)
 as participle demonstrating the truth of something by evidence Cells swelled in quinine, **proving** that K⁺-channels were involved

See: [Gerunds/participles](#)

Pry

See: [Prise/pry](#)

Pseudonyms

alternative or **fictitious** names used for privacy Amantine Lucile Aurore Dupin wrote under the **pseudonym** George Sand

Pseudonymisation

See: [Anonymisation/pseudonymisation](#)

Public is/are

public is considered a **singular and plural** noun
 The **public expects** the research students to help in the hospital
 The **public want** a better hospital service

Punctilious

See: [Meticulous/punctilious/scrupulous](#)

Purified water

water purified by distillation (aqua dest.), double distillation (dd), reverse osmosis, ultra-filtration

Purport

to appear to be or do something, especially falsely; to claim, to pretend, to profess
 followed by an **infinitive** She is not the scientist she **purports to be**

Purposefully/purposely

<i>purposefully</i>	for a purpose, to make a point	She purposefully nudged me to draw my attention to the lecturer's non-matching shoes
<i>purposely</i>	intentionally, deliberately	She purposely added the gentian violet to make the sperm heads visible

Pursuant to

quasi-adverb in accordance with a legal document The University froze the Union's assets **pursuant to** its rule on Student fees

See: [Prepositions](#)

Put

to cause to be at

See: [Light/phrasal verbs](#)

Putting aside

a participial phrase

after putting aside some statement, even ignoring that statement **Putting aside** that the details, I still believe that the approach is wrong
[**only people** can **put aside things**]

See: [Having put that aside/that aside](#)

ALERT Check that **putting aside** has a **relevant noun** to complement

Putting aside that argument, such a view is still inconsistent with the facts

ERROR *Semantics:* **putting aside** is participial phrase and **a view** is the nearest noun it can complement
so this implies that the **view** put something aside

CORRECT [if the **speaker** put something aside] by

introducing a human element

Putting aside that argument, **I still believe that** such a view is inconsistent with the facts

replacing putting aside by **that being put aside** or **that aside**

That being put aside/that aside, such a view is still inconsistent with the facts

q.d. (Latin)

See: [b.i.d./q.d./q h/q.i.d./t.i.d](#)

q_h (Latin)

See: [b.i.d./q.d./q h/q.i.d./t.i.d](#)

q.i.d. (Latin)

See: [b.i.d./q.d./q h/q.i.d./t.i.d](#)

q.v. (Latin)

See: [cf./q.v.](#)

Quadrennial/quadrannium

quadrennial **lasting for** four years **and occurring every** four years

quadrannium a **period of** four years

NOTE confusing, **avoid**, use a period of four years, Lasting for four years **or** Every four years

Qualifiers/quantifiers

qualifiers a **modifier** attributing a quality (qualify) another word

by limiting (lessening) its meaning

comprise adjectives, adverbs

quantifiers quantitative **determiners**

quantitative adjectives

all/any/double/enough

numerical adjectives

numbers: cardinal/ordinal; words: previous/next)

partitive constructions

a pair of, sources of

See: [Modifiers/determiners/adverbials, Partitive Constructions](#)

Qualitative/quantitative/semi-quantitative

qualitative relating to the **quality** of something rather than its quantity

measured by **subjective** (non-numerical) means

providing a **relative** amount

quantitative relating to the **quantity** of something rather than its quality

measured by **objective** (numerical) means

providing an **absolute** amount

semi-quantitative **partly** relating to the **quantity** of something rather than its quality

measured by **partly objective** (partly numerical, non-numerical) means

providing an **approximation** of the absolute amount

Quantification/quantitation

quantification noun from the verb to **quantify**

See: [Back-formation](#)

Quantified/quantitated

quantified past participle of the verb to **quantify**

See: [Back-formation](#)

Quantify/quantitate

quantify to assess, to count, to measure accurately

See: [Assess/count/estimate](#), [Back-formation](#), [Evaluate/evaluation](#)

Quantile

a value that divides a frequency distribution into groups containing the same fraction of the population

any of such groups containing

three equal parts	a tertile	contains 33.3% of the data	33.3% of the data lie below the tertile	(the 33rd centile)
four equal parts	a quartile	contains 25% of the data	25% of the values lie below the quartile	(the 25th centile)
10 equal parts	a decile	contains 10% of the data	10% of the values lie below the decile	(the 10th centile)
100 equal parts	a centile	contains 1% of the data	1% of the values lie below the 1st centile	

NOTE **not per**quantile **per**tertile **per**quartile **per**decile **per**centile

See: [Centile/percentile](#)

Quantitative

See: [Qualitative/quantitative/semi-quantitative](#)

Quantity

See: [Parameter/quantity/value](#)

Quasi-adverbs

adjectives idiomatically used with **prepositions** (complex prepositions)

according **to** contrary **to** irrespective **of** preliminary **to** preparatory **to** previous **to** prior **to** pursuant **to** subsequent **to**

See: [Adjectives](#), [Adverbs](#), [Prepositions](#)

Quasi-modal verbs

See: [Modal/non-modal/quasi-modal verbs](#)

Query

See: [Interrogate/query/question](#)

Quest/search

<i>quest</i>	noun	a long or arduous search for something	His quest was to find out how the epididymis influenced sperm volume regulation
<i>search</i>	noun	the act of searching for something	His search was for any references on osmolyte uptake and cell volume regulation
		followed by a preposition	I made a thorough search of the laboratory
		no preposition	The search continued at home
	verb	to try to find something by looking or otherwise seeking carefully and thoroughly	
		followed by no preposition	He searched the laboratory completely

See: [Search among/for/of](#)

Question

See: [Doubt/question](#), [Interrogate/query/question](#)

Quinquennial/quinquennium

<i>quinquennial</i>	lasting for five years and occurring every five years
<i>quinquennium</i>	a period of five years

NOTE confusing, **avoid**, use A period of five years, Lasting for five years **or** Every five years

Quick/quickly

<i>quick</i>	adjective (formal)	moving fast, doing something in a short space of time	He must have been quick to reach the seminar room in time
		happening with little or no delay, prompt	He was quick to point out my mistake
	adverb (informal)	at a high speed, rapidly	There's a fire: get out quick !
<i>quickly</i>	adverb (formal)	at a high speed, rapidly	There's a fire: get out quickly !
			Some spermatozoa were moving quickly

See: [Immediately/promptly/quickly/soon](#)

ALERT Check the **meaning** when using **quick**

Please reply **quickly**

ERROR *Semantics*: this means **typing fast** and **immediately** clicking the send button, or **writing rapidly** and **rushing** to the post-box

CORRECT [if the reply is needed within a **short period** of time] by

replacing quickly by adverbs **indicating of short duration**

Please reply **immediately/promptly/soon**

Quit/stop

<i>quit</i>	to go away, to leave a place, usually permanently	After 10 months as lab. director he quit to work elsewhere
	does not mean to stop confusion with American English	
<i>stop</i>	to cease, to desist, to end, to finish, to refrain from	After six days the cultures were stopped and RNA was extracted from the cells

See: [Prevent/stop](#)

ALERT Check that **quit** is the correct verb

He told us he would **quit** smoking

ERROR *Syntax*: smoking is not a place

CORRECT by **replacing quit by stop**

He told us he would **stop** smoking

Quite

a grading adverb to the utmost extent or degree This is **quite** out of the question
 to a fairly significant extent or degree It's **quite** a good thesis

NOTE *Overused word*: often used unnecessarily [**omit**]

See: [Absolute adjectives](#)

Quite a few

See: [Just/quite a few](#)

Quite unique

Oxymoron: as **unique** means **the only one** if its kind, it **needs no** qualification (**to a certain degree**) before it: use unique

See: [Absolute adjectives](#), [Quite](#), [Unique](#)

Quoad vitam et quoad valetudinem (Latin)

with respect to life and health Low vitamin D levels appear to worsen the prognosis **quoad vitam** and **quoad valetudinem** following stroke

Quota (Latin)

abbreviation of **quota (pars)** how great [a part] a limited amount or number of people/things We have reached our **quota** of foreign students

Quotation/quote/quotes

quotation	noun	a formal statement setting out the cost for a service	Send me the quotation for the repair of the centrifuge
		words taken from a text or speech by another author	Our quotation for repairing the microscope is \$3,000 plus tax
quote	verb	to repeat or copy spoken or written words	Darwin's quotations adorn the lab. walls and my tee-shirt
		is not a noun	May I quote this passage in my thesis?
		does not mean quotation	
quotes		does not mean inverted commas (quotation marks)	

See: [Direct/indirect speech](#), [Inverted commas](#), [Tenses of direct/indirect speech](#)

Quotation marks

See: [Inverted commas](#)

Quotations

See: [Direct/indirect speech](#), [Paraphrase/quotation/verbatim](#), [Quotation/quote/quotes](#)

Radiation

See: [Irradiation/radiation](#)

Radio-autography

See: [Auto-radiography/radio-autography](#)

Radiography

See: [Auto-radiography/radio-autography](#)

Raise/rise

raise	transitive verb	to lift something up	Always raise the objective lens before inserting the slide
		simple past tense raised	I raised the objective lens on the microscope
		past participle raised	The objective lens was raised before the slide was inserted
rise	intransitive verb	to move from a lower position to a higher	The prices rise every year
		to get up, to go up	I rise at 6.00 every morning
		simple past tense rose	Yesterday I rose at 5.00 to see sunrise
		past participle risen	The prices of lenses have risen in the last year
		[only people and animals can rise up]	
	noun	an increase in amount, degree, number, size	The rise in voice pitch at the end of a sentence proved she was Welsh

See: [Intransitive/transitive verbs](#)

Raised

adjective	of greater height in position	They had raised expectations of the new Dean
past tense of to raise	to make larger in extent or number	
	indicates a causal relationship with some manipulation	Hormone injections raised serum testosterone concentrations
past participle of to raise	to have been made larger in extent or number	
	indicates a causal relationship with some manipulation	Testosterone concentrations were raised by injections

See: [Higher/increased](#)

ALERT Check that **raised is not** used for direct **comparisons**

Tubule diameters in the EDL group were **raised compared with/in comparison with** those of the controls

ERROR *Syntax*: participles **are not** used for direct comparisons

CORRECT by

rewriting the sentence by inserting the **cause of the increase**

Tubule diameters in the treated group were **raised by ligation of the efferent ducts**

rewriting the sentence by inserting the **sequence of events**

Tubule diameters in the treated group **rose after ligation of the efferent ducts**

Random/systematic

random without conscious decision, unmethodical
statistics: governed by or involving equal chances for each item

systematic according to a fixed plan, methodical

Students were chosen by picking names at **random**
We chose a **random** sample of infertile couples
The slide was scanned for spermatozoa in a **systematic** manner

Random/at random/randomise/randomised

random adjective without conscious decision, unmethodological
randomly adverb done without conscious decision, at random
at random adverbial phrase done without conscious decision, randomly
randomised participle made random in order or arrangement

A **random** selection of fathers formed the control group
Animals were **randomly** included in the experimental groups
Patients were directed **at random** to control or treated groups
A **randomised** controlled study of 1,000 infertile men

Random order

Oxymoron: something **random** cannot, by definition, be **ordered**: use **randomly**

See: [Oxymoron](#)

Range

See: [Between... and... /from... to...](#), [Interval/range](#)

Rare

See: [Dearth/plethora](#), [Little/rare/scarcely](#)

Rarely

adverb not often
on rare occasions **with no** subject-verb inversion
for emphasis **with subject-verb** inversion

He **rarely** leaves home now
Rarely, the **cilium is** observed extending for a long distance between cells
Rarely was the **cilium** observed extending for a long distance between cells

See: [Inversion of verbs and subjects](#), [Little/rare/scarcely](#)

Rate

See: [Degree/extent/rate](#), [Frequency/rate/speed](#), [Knot](#)

Rather/rather than

rather a **simple** adverb somewhat defining an **adjective**
a **comparative** adverb more precisely defining an **adverb**
a **sentence** adverb preferably, sooner defining a **verb**
rather than an adverbial phrase, **comparative** conjunction on the contrary defining a **verb**
in preference to, instead of

It was a **rather small** increase in gene expression
The treated rats are behaving **rather strangely**
I walked, or **rather limped**, to the lecture
I would **rather use** testosterone
There is no lack of osmolytes, **rather**, a lack of transporters
I use swim up **rather than** density gradient centrifugation

NOTE *Overused words*: often used unnecessarily [**omit**]

See: [Early/soon/sooner](#), [In/on the contrary](#), [Instead/instead of/rather than/rather... than](#), [Prefer... to/rather than](#), [Quite](#)

ALERT Check the position of **rather** in the sentence

He was **rather** a tall man

ERROR *Semantics*: ambiguous, **it is unclear** which meaning of **rather** is meant
so **this could be interpreted as**

he was **taller** than most men

[**rather** as a **simple adverb**]

or

he was not as short a man **as expected**

[**rather** as a **comparative adverb**]

CORRECT [if the **former** is meant] by

moving rather to define the following **adjective**

He was a **rather tall** man

CORRECT [if the **latter** is meant] by

inserting commas around **rather** for emphasis

He was, **rather**, a tall man

replacing rather by a less confusing **adverb**

He was **unexpectedly/however** a tall man

The experts suggested that the University appoint veterinary experts **as** board members **rather than** amateurs

ERROR *Semantics*: this implies that it was suggested to appoint veterinary experts as amateurs

CORRECT [if it was suggested to appoint veterinary **experts** not amateurs] by

moving **amateurs** closer to **experts**

The experts suggested that the University appoint veterinary experts, **rather than amateurs**, as board members

ALERT Check that **rather** is used with words that **can be qualified**

His work is **rather** unique

ERROR *Oxymoron*: as **unique** means **the only one** if its kind, it **needs no** qualification before it

CORRECT by **omitting quite**

His work is unique

Rather unique

Oxymoron: as **unique** means **the only one** if its kind, it **needs no** qualification (**to a certain degree**) before it: use unique

See: [Absolute adjectives](#), [Rather/rather than](#)

Ratio

See: [Fraction/percentage/proportion/ratio](#)

Rational numbers

See: [Irrational/rational numbers](#)

Raw

See: [Neat/raw/whole](#)

RCF/rpm

RCF Relative Centrifugal Force

the relative gravitational force exerted on a body moving in a circle around a central point

unit: gravity (*g*) with **no space** between the value and the unit Samples were centrifuged at **600g** for 10 min

rpm revolutions per minute

the number of times per minute a body moves in a circle around a central point

unit: rpm with **a space** between the value and the unit Samples were mixed by rotation at **10 rpm**

NOTE RCF depends on the speed of rotation (*N*, rpm) and distance (radius *R*, cm) from the rotor centre to where the force is measured

$RCF = 1.118 \cdot 10^{-5} \cdot R \cdot N^2$ at the bottom of a tube in a 5 cm rotor at 16,000 rpm $RCF = (1.118 \cdot 0.00001) \cdot 5 \cdot (16000 \cdot 16000) = 14,310g$

See: [Units](#)

Re- (Latin)

prefix again

See: [Again](#), [Prefix list](#)

React

intransitive verb to interact and undergo a physical or chemical change The beads **react** with acid

ALERT Check that **react is not** used in the passive voice

The beads were **reacted** with acid

ERROR *Syntax*: **react** is an **intransitive** verb, which has **no passive**

CORRECT by **replacing react** by a **transitive verb**

The beads were **treated** with acid

Readings

See: [Data/readings](#)

Reaffirmation/reaffirmation

reaffirmation a reassertion or confirmation of a fact or belief

Real

See: [For real/real](#)

Real numbers

See: [Imaginary/real numbers](#)

Realise

See: [Appreciate/realise/understand](#)

Really

in actual fact, as opposed to what is imagined to be true or possible

placed before the **word** it modifies

a **noun** The meeting is **really** another **attempt** to listen to the views on how it works [the **attempt** is stressed]

a **non-finite verb** The meeting is another attempt **really to listen** to the views on how it works [the **listening** is stressed]

a **finite verb** The meeting is another attempt to listen to the views on how it **really works** [the **working** is stressed]

very, thoroughly

placed before the **word** it modifies

an **adjective** It is a **really efficient** method of sperm separation [the **efficiency** is stressed]

seriously
with implied negative Do you **really** expect me **to believe** that? [the **belief** is questioned]

See: [Position of adverbs](#)

Reason

noun	a cause, explanation or justification for an event	The reason for his view was the timing: first channel blockade then cellular swelling
verb	to think, understand and form judgements logically	He reasoned that the cellular swelling was a response to channel blockade

See: [Reason why, Why](#)

ALERT Check that **reason** *is not* used with **explanatory words**

If we don't get funded our students will want to know the **reason why**
ERROR *Pleonasm*: as the **reason** explains **why**, one word is **superfluous**

CORRECT by **using one or the other**, not both, by
omitting the reason

If we don't get funded our students will want to know **why**
omitting why

If we don't get funded our students will want to know the **reason**

The **reason** she spends less time in the laboratory **is because** she has to lecture abroad

ERROR *Tautology*: as a **reason** explains the **cause**, one word is **superfluous**

CORRECT by **using one or the other**, not both, by
omitting the reason and is

She spends less time in the laboratory **because** she has to lecture abroad

replacing because by that

The **reason** she spends less time in the laboratory **is that** she has to lecture abroad

Reason... is because

Tautology: as a **reason** explains the cause, **because** is **superfluous**: use **reason... is/is that**

Reason... is due to

Tautology: as a **reason** explains what things are due to, **due to** is **superfluous**: use **reason... is/is that**

Reason why

Pleonasm: as a **reason** explains why, **why** is **superfluous**: use **reason**

Reasonable/relevant

<i>reasonable</i>	for people	having sound judgement	No reasonable person would object to this conclusion [only people can have sound judgement]
	for ideas	based on good sense	With these symptoms further investigation is reasonable
<i>relevant</i>	appropriate to what is being considered		In this case EEG is relevant

See: [Apposite/appropriate/germane/pertinent/relevant](#), [Relevance/relevancy/relevant](#)

ALERT Check that **reasonable** is the **intended word**

In this case EEG is **reasonable**

ERROR *Syntax*: **procedures** are **insentient and cannot** exhibit sound judgement

CORRECT by
replacing reasonable by relevant

In this case EEG is **relevant**

implying a human element

In this case **the use of** EEG is reasonable

Reasoning

See: [A priori/posteriori](#), [Deductive/inductive reasoning](#), [Empirical/theoretical](#)

Rebut/refute/repudiate

<i>rebut</i>	to claim or prove that something is false with evidence	They rebutted the claim that the epididymis absorbs dead spermatozoa
<i>refute</i>	to prove that something is false with evidence does not mean to deny	He refuted the claim that his work was plagiarism
<i>repudiate</i>	to refuse to accept, to reject to deny the validity of something without evidence	He repudiated policies of former departmental heads He repudiated allegations of plagiarism

Rebuttle/rebuttal

<i>rebuttal</i>	an instance of rebutting evidence or an accusation	Their rebuttal of the alternative theory was rapid and concise
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Recapitulation

an act of summarising the main points of something	His recapitulation of the argument was thorough
the repetition of an evolutionary or other process during development	Ontogeny recapitulates phylogeny
does not mean confirmation	

ALERT Check that **recapitulation** is the correct word

relacing reduced by low

Tubule diameters in the busulphan-treated group were **low compared with/in comparison with** those of the controls

replacing reduced compared with/in comparison with by below/lower than

Tubule diameters in the busulphan-treated group were **below/lower than** those of the controls

omitting compared with/in comparison with and stating the cause of the decrease

Tubule diameters in the treated group were **reduced by busulphan**

omitting reduced compared with/in comparison with and stating the sequence of events

Tubule diameters in the treated group **fell after administration of busulphan**

Expression of epididymal ADAM7 and GRP78 in old men was **reduced compared with/in comparison with** that of young adults

ERROR Syntax: participles **are not** used for comparison

CORRECT by

replacing reduced by low

Expression of epididymal ADAM7 and GRP78 in old men was **low compared with/in comparison with** that of young adults

replacing reduced compared with/in comparison with by lower than/below

Expression of epididymal ADAM7 and GRP78 in old men was **lower than/below** that of young adults

omitting compared with/in comparison with and stating the cause of the decrease

Expression of epididymal ADAM7 and GRP78 was **reduced by ageing**

omitting reduced compared with/in comparison with and stating the sequence of events

Expression of epididymal ADAM7 and GRP78 **declined with age**

Reduced number of

Style: verbosity, can be shortened: replace by **fewer**

Reduced relative to

Style: verbosity, can be shortened: replace by **less than/lower than**

Reduction

cut, decrease

Redundancy/repetition

redundancy	poor style	the use of unnecessary, repetitious or superfluous words
		pleonasm pairs of words
		tautology word phrases
repetition	poor style	the unnecessary repetition of words or sounds
		Of many of those rats, of which few are fertile, it can be said of them that they have a gene defect
		to make reading easier, avoid repeating
		the same word
		change There is binding of different ligands to different receptors in different cell types
		to There is binding of different ligands to various receptors in several cell types
		the same word with different meanings
		change It is vital that sperm preparations are vital before their use in IVF
		to It is important that sperm preparations are alive before their use in IVF
		words giving the same meaning (pleonasm)
		change The reason why is simple to explain
		to The reason is simple to explain/ Why is simple to explain
		related ideas (tautology)
		change Currently such methods are popular today
		to Currently such methods are popular/Such methods are popular today
		names
		change Rodin et al. examined... (Rodin et al. 2003)
		to Rodin et al. (2003) examined...
		change (see Hui et al. 2003; Hui et al. 2004)
		to (see Hui et al. 2003, 2004)
	good style	for rhetoric effect
		He took his pen and pencil and paper and ink, and then left the room
		He did not want to attend and he did not attend
		The possibility of change, the possibility of improvement, the possibility of success encourage us
		I say what I mean , and I mean what I say

See: [A-/poly-syndeton](#), [Grammar/style](#), [Pleonasm/tautology](#), [Repetition/replication/reproducibility](#), [Rhetoric/rhetorical/rhetorical question](#)

ALERT Check that there is no unnecessary **repetition of the same word**

He owed less to judgment than **he owed** to luck

STYLE **Tautology**: repetition of he owed

CHANGE by **omitting** the second **he owed**

He owed less to judgment than to luck

Serum glucose **levels** in the treated animals were reduced below the **levels** of the controls

STYLE **Tautology**: repetition of levels

CHANGE by **replacing** the second **levels** by **those**

Serum glucose **levels** in the treated animals were reduced below **those** of the controls

ALERT Check that there is no unnecessary **repetition of phrases**

The results reflect, on the one **hand**, the different maturity of the spermatozoa, and the effect of the centrifugation step on the other **hand**

STYLE *Tautology*: repetition of hand
 CHANGE by **omitting** the second **hand**
 The results reflect, on the one **hand**, the different maturity of the spermatozoa, and the effect of the centrifugation step on the other

The male **students largely voted** for the **amendment** and the female **students largely voted** against the **amendment**

STYLE *Tautology*: repetition of **students, largely voted** and **amendment**

CHANGE by

replacing the second **amendment** by **it**

The male **students largely voted** for the **amendment** and the female **students largely voted** against **it**

replacing **female** by **females** and **omitting** the second **students, largely voted, the amendment**

The male **students largely voted** for the **amendment** and the females **against**

They were more **the product of** student politics than **they were the product of** responsible reflection

STYLE *Tautology*: repetition of **they were the product of**

CHANGE by **omitting** the second **the product**

They were more **the product of** student politics than **they were of** responsible reflection

ALERT Check that there is no unnecessary **repetition of similar ideas**

Pericytes initiate angiogenesis in quiescent tissue **in addition** to facilitating local invasion; **In addition**, they help protect the vasculature from drugs targeting cell signalling; **additionally**, several progenitor cells become intercalated as pericytes.

STYLE *Tautology*: repetition of the same concept (**addition/additionally**) in similar words

CHANGE by **replacing** the first **in addition** by **and**, **omitting** the second **in addition** and **additionally** and **starting a new sentence**

Pericytes initiate angiogenesis in quiescent tissue **and** facilitate local invasion; they also help protect the vasculature from drugs targeting cell signalling. Several progenitor cells become intercalated as pericytes.

Results from **previous comparative** work in this field, **published before in the literature** by Hinton et al (1975)², is at variance with our results

ERROR *Tautology*: **comparative** work must be in the **same field**; **published data** must be of **previous work** and have **appeared before**; **published work** is necessarily found in the **literature**; citations are given both by **name with date** and **reference number**; **results** is **plural** but is **singular**

CORRECT by **omitting all unnecessary words**

Results from Hinton et al. (1975) do not agree with ours

ALERT Check if **repetition is needed** for emphasis

We employed a student who was slow **but** technically competent

[**but** links **adjectives**]

STYLE *Semantics*: this is a descriptive statement only

CHANGE [if **emphasis** is required] by

repeating the **subject** and **verb**

We employed a student **who was** slow but **who was** technically competent

[**but** links **clauses**]

They were **more** the product of student politics **than** responsible reflection

ERROR *Semantics*: ambiguous, **it is unclear** what **more** refers to, the **subject** (they) or **object** (the product) so **this could be interpreted as**

they were more the **product of student politics** than they were the **product of responsible reflection**

or

they were, more than **responsible reflection** was, the product of student politics

CORRECT [if the **former** is meant] by

repeating **they were** and **inserting of**

They were **more** the product of student politics **than** **they were** of responsible reflection

Referee/reviewer

referee one who referees grants or manuscripts and makes recommendations

The **referee** recommends the paper be published after revision

reviewer one who writes reviews

The **reviewer** has omitted the central role of the epididymis

Reference distribution/individual/interval/limits/range/values

distribution the **distribution** of values obtained from a collection of reference individuals

fertile **men**

individual an **individual** selected from defined criteria to provide reference values

a fertile **man**

interval the values **bounded by** (and including) a pair of (upper and lower) reference limits

from the **2.5th** to **97.5th** centiles

limits the values **at each end** of a reference interval

the **lower** (2.5th) and **upper** (97.5th) centiles

range the **extent** of variation in values in a reference interval

95% of values lie within the **2.5th** and **97.5th** centiles

values the values obtained from **reference individuals**

See: [Between... and... /from... to...](#), [Interval/range](#), [Observed/reference values](#)

Reference value

See: [Observed/reference values](#)

Referred to as

Style: verbosity, can be shortened: replace by **called**

Refill

to fill again

Refill the fire extinguisher immediately after its use

past tense, past participle

refilled

She **refilled** the culture dishes every two days

present participle, gerund

refilling

She was **refilling** the culture dishes when the alarm rang

Refiled/refilled

<i>refiled</i>	past participle of the verb to refile	(to file once more)	After the initial rough filing, the tips of the forceps were refiled to fine points
<i>refilled</i>	past participle of the verb to refill	(to fill once more)	After being emptied and rinsed, the flask was refilled

Reflexive genitive pronouns

See: [Intensive/reflexive genitive pronouns](#)

Refuse/refuses

<i>refuse</i>	verb	to indicate or show that one is unwilling to do something	He refused to work on Saturdays
	noun	worthless or useless part of something	
		refuse is a mass noun, which has no plural	Potentially infectious refuse has to be incinerated
		the plural form takes a partitive construction	Bags of refuse have to be incinerated in the autoclave
<i>refuses</i>	verb	3 rd person singular of the verb to refuse	She refuses to attend his lectures
		is not a plural noun	

See: [Deny/refuse/refute](#)

Refute

See: [Deny/refuse/refute](#), [Rebut/refute/repudiate](#)

Regard/regards

<i>regard</i>	preposition	attention to something	The results should be considered with regard to the seasonal rhythmicity of LH
<i>regards</i>	noun	best wishes, friendly greetings	Please give my regards to Professor Jones
	preposition	concerning, in respect to	As regards content, the lecture will include his latest research findings

Regarding/with regard to

<i>regarding</i>	gerund (verbal noun)		His regarding the manuscript as good was not accepted
	participle (verbal adjective)	contemplating, looking at, viewing	He was regarding the posters when they first met
		concerning, in respect of, with regard to	I refer to your email regarding impact factors
	preposition	concerning, in respect of, with regard to	Regarding the costs, we'll charge you the lower rate
<i>with regard to</i>	prepositional phrase	as concerns, regarding, with respect to	He made enquiries with regard to his exam results

See: [Phrases, With reference/regard/respect to](#)

ALERT Check that the **meaning** of **regarding** is clear

There are two kinds of students **regarding** sperm morphology

ERROR *Semantics*: ambiguous, **it is unclear** if **regarding** is used as a **participle** or **preposition**
so **this could be interpreted as** the students
 examining sperm morphology, are of two (undefined) groups [regarding as a *participle*]
 or
 are of two groups, **categorised from** their sperm morphology [regarding as a *preposition*]

CORRECT [if the **former** is meant] by
replacing regarding by examining
There are two kinds of students **examining** sperm morphology

CORRECT [if the **latter** is meant] by
replacing regarding by with regard to
There are two kinds of students **with regard to** sperm morphology

replacing regarding by distinguishable by their
There are two kinds of students **distinguishable by their** sperm morphology

Regardless/regardless of

<i>regardless</i>	despite the prevailing circumstances	We continued our epididymal research regardless
		The volunteers are paid regardless of their age, sex or faculty
<i>regardless of</i>	without regard or consideration for	There are those who still believe the theory, regardless of its being disproved

See: [But nevertheless/neithertheless](#), [Despite/in spite of](#), [Irregardless/irrespective](#), [Nevertheless/nonetheless/notwithstanding](#)

ALERT Check the sense when using **regardless**

The current technique can be used by all technicians **regardless** of their level of skill **or not**

ERROR *Tautology*: as **regardless** means **whether or not**, one term is *superfluous*

CORRECT by **using one or the other**, not both, by
omitting or not
The current technique can be used by all technicians **regardless** of their level of skill

replacing regardless by whether and **rewriting the sentence**
The current technique can be used by all technicians **whether or not** they are skilled

Registrate/register

<i>register</i>	to enter or record on an official list or directory
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See: [Back-formation](#)

Registered/registered

<i>registered</i>	past participle of the verb to register
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See: [Back-formation](#)

Regression

See: [Association/correlation/regression](#)

Regrettably/regretfully

regrettably adverb used to describe **whole clauses**
 placed at the **beginning** of the sentence **Regrettably**, none of the students know Chinese
 placed **before** the verb None of the students, **regrettably**, know Chinese
 [it is to be regretted that/it is regrettable that none of the students know Chinese]

regretfully adverb used to describe **verbs/verbal phrases**
 placed after the **verb** I **have regretfully** to inform you that you have failed the examination
 [it is with regret that I have to inform you that you have failed the examination]
 [only people can regret things]

ALERT Check that **regretfully** is only used for people

Regretfully, the cleaning agent is corroding the incubator

ERROR *Semantics*: this means that the **cleaning agent is feeling regretful**

CORRECT by **replacing regretfully by regrettably**

Regrettably, the cleaning agent is corroding the incubator

Reiterate

See: [Iterate/reiterate](#)

Reiterate again

Pleonasm: as **reiterate** implies a repeated action, **re** is **superfluous**: use **reiterate**

NOTE acceptable for emphasis if the **reiteration itself** has been **repeated**

Reknowned/renowned

See: [Renowned](#)

-related

legitimate device in compound (hyphenated) attributive adjectives
 when attached to **nouns** **alcohol**-related disease diseases related to **alcohol**
drug-related offence offences related to **drugs**
is not used with **adjectives** **not academic**-related staff
 meaning can be problematic with certain words
drug-related offences can be those involving the sale or **distribution of drugs**
 prompted by the **desire to obtain drugs**
 committed **under the influence of drugs**

NOTE *Vague words*: often used unnecessarily, replace by **the manner of relatedness** [or omit]

See: [Adjectives](#), [Dash/hyphen](#), [Punctuation](#)

Related to/with

related to from the verb to relate to make or show a connection between (from one item **to** another)

See: [Associated to/with](#), [Correlated to/with](#)

Relative to

in comparison with

Relatively

sentence adverb in relation or comparison to something else As we have not kept pace with progress, we are, **relatively**, falling behind
 modifier, adjective regarded in comparison with something else, quite The laboratory was unused and **relatively** clean

NOTE *Overused word*: often used unnecessarily, be **exact** [or omit]

Relatively better than...

Tautology: as **relatively** implies a comparison, and **better** is a comparative adjective, one word is **superfluous**: replace by **better than...**

See: [Comparative/superlative](#)

Relatively cheap compared with...

Tautology: as both **relatively** and the prepositional phrase **imply a comparison**, one term is **superfluous**: replace by **cheap compared with...**

See: [Comparative/superlative](#)

Relevance/relevancy/relevant

relevance noun the quality of being closely appropriate What he is saying has no **relevance** to the problem
relevancy noun an older term for relevance
relevant adjective closely appropriate to what is being done What the student need is **relevant** advice

ERROR *Semantics*: no official decision is mentioned
 CORRECT by **replacing *revoke* by *prevent***
 By using 10 nM Casodex the 1 nM DHT-induced action was **prevented**

Repeat

to do something again or more than once

Repeat again

Pleonasm: as **repeat** implies something done again, **again** is *superfluous*: use **repeat**

Repetition

of numbers	an experiment repeated twice is not done two times		
	an experiment repeated once is done the first time	and then again	so is done twice
	an experiment repeated twice is done the first time	and then again twice	so is done three times
of magnitude	three times as much as does not mean the same as three times more than		
	once more than	3 [$3 + 3 = 6$]	means twice as much [$2 \times 3 = 6$]
	three times more than	3 [$3 + 3 + 3 = 12$]	means four times as much [$4 \times 3 = 12$]
of multiplication	logarithms count the number of repeated multiplications		
	$\log_{10}(1000) = 3$	$[10^3 = 10 \cdot 10 \cdot 10 = 1000]$	
	$\log_2(1024) = 10$	$[2^{10} = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 = 1024]$	
of multipliers for numbers	between 30×10^6 and 60×10^6	a range of 30 000 000	$[60 \times 10^6 - 30 \times 10^6]$
	not between 30 and 60×10^6	a range of 59 999 070	$[60 \times 10^6 - 30]$
of units	a cover slip 18 mm x 18 mm		
	not 18 x 18 mm		

See: [Double/twice](#), [Duplicate/replicate/triplicate](#), [Exponentiation/logarithms](#), [Interval/range](#), [Redundancy/repetition](#), [Thrice/treble/triple](#), [Times as much as/more than/less than](#), [Units](#)

Repetition/replication/reproducibility

<i>repetition</i>	repeated measures (statistics)
	repeated measurements on the same biological unit
	at different times of day/temperatures
	can be used for statistical inference on repeatability of responses
<i>replication</i>	technical replication (statistics, repeats)
	repeated analyses on aliquots of the same sample
	in assaying a sample in duplicate or triplicate: provides one value (the mean) for that sample
	cannot be used for statistical inference on repeatability of variation (as $n = 1$)
	in establishing an assay: provide data on the precision of a method (intra-assay error)
	biological replication
	repeated experiments on aliquots of similar samples
	with cell lines: provide an indication of intra-sample variation in response
	can be used for statistical inference on repeatability of responses but not variability (as $n = 1$)
<i>reproducibility</i>	biological replication
	parallel measurements on biologically distinct samples under identical conditions
	in examining inter-animal/-species/-genotype differences: capture biological variation or responses
	can be used for statistical inference on repeatability of variation and responses

See: [Redundancy/repetition](#)

Replace/substitute

<i>substitute</i>	when X is used instead of Y
	followed by the preposition for
	active: In these experiments the student substituted mannitol for inositol
	passive: In these experiments mannitol was substituted for inositol
<i>replace</i>	when Y is not used but X is used instead
	followed by the preposition by or with
	active: In these experiments the student replaced inositol by/with mannitol
	passive: In these experiments inositol was replaced by/with mannitol

See: [Compensate by/for/with](#)

Replete

filled or well-supplied with something

Replicates

See: [Duplicate/replicate/triplicate](#)

Report

See: [Describe/report/state](#)

Reported here demonstrate that

Style: verbosity, can be shortened: replace by **demonstrate that**

Reported speech

indirect speech

See: [Direct/indirect speech](#), [Tenses of direct/indirect speech](#)

Reportedly

adverb according to what some say
expressing the speaker's belief that the information given **is not necessarily true**
used to describe a whole clause
placed at the **beginning** of the sentence **Reportedly**, quinine increases the volume of human spermatozoa
[**It is reported that** quinine increases the volume of human spermatozoa]

Repose

See: [Prone/prostrate/recumbent/repose/supine](#)

Represent

See: [Constitute/represent](#)

Repute

mass noun a generally held opinion, the state of being regarded in a certain way Don't say anything bringing the institute into bad **repute**
the state of being highly regarded, fame The Institute's new Director was of high **repute**
verb to be generally regarded to be followed by an **infinitive** This Chinese drug is **reputed to have** healing properties

Research/researches

research noun the systematic investigation into, and study of, materials to establish facts and reach conclusions
research is a **mass** noun, which **has no plural** Much **research remains** to be done research
the **plural** form takes a **partitive** construction Several **fields of research were** described in the report
verb to investigate systematically He has spent the last 40 years **researching** the epididymis
researches verb 3rd person singular of the verb **to research** She **researches** sperm maturation and epididymal function
is not a plural noun

ALERT Check that **research is not** used with words **relating to investigation**

This review suggests several directions for further **research** that should be investigated

ERROR *Tautology*: as **research** is an **investigation**, several words are **superfluous**

CORRECT by

omitting that should be investigated

This review suggests several directions for further **research**

omitting for further research and **replacing directions by problems**

This review suggests several **problems** that should be investigated

Residence/residency

residence a person's home, especially large and impressive His place of **residence** was the student hostel
residency the fact of living in a place The dean confirmed the student's right to **residency** in the hostel
After seven years he obtained **residency** rights in Hong Kong

Residual/residue

residual adjective remaining after the main part has gone The **residual** medium is disposed off after sterilisation
noun a difference between a measured the theoretical value We plot **residuals** against their expected values '
residue noun the small amount that remains after the main part has gone The **residue** is difficult to remove from the tube walls

ALERT Check that the use of **residue does not** cause confusion

This may reflect the washout by successive urinations of sperm **residues** remaining in the urethra after ejaculation

ERROR *Semantics*: this implies that parts of **degraded** spermatozoa (sperm **residues**) are in the urethra

CORRECT [if the spermatozoa remaining in the urethra **were not** intact] by

replacing sperm residues by degraded spermatozoa

This may reflect the washout by successive urinations of **degraded spermatozoa** remaining in the urethra after ejaculation

CORRECT [if the spermatozoa remaining in the urethra were **intact**] by

replacing sperm residues by spermatozoa

This may reflect the washout by successive urinations of **spermatozoa** remaining in the urethra after ejaculation

replacing sperm residues remaining by residual spermatozoa

This may reflect the washout by successive urinations of **residual spermatozoa** in the urethra after ejaculation

Resolve/solve

resolve to find a solution to a problem They **resolved** their differences over how to publish their work
to decide firmly on a course of action He **resolved** to retire at the end of the year
to separate into component parts The gel **resolved** the proteins into its subunits
to distinguish between closely adjacent objects The column **resolved** the stereo-isomers of inositol
solve to find an answer to, an explanation for a problem The problem was **solved** by presenting all conflicting results in a Commentary
does not mean dissolve

Resorption

See: [Absorption/adsorption/resorption](#)

Respect

See: [Aspect/respect](#)

Respective/respectively

respective adjective

relating to each of **two or more** people/things individually

After the meeting, the participants returned to their **respective** institutions

(each participant to his own institution)

Both explanations are published by adherents of the **respective** theories

(each adherent to his own theory)

can often be omitted with no change in meaning

Both explanations are published by adherents of the theories

respectively adverb

relating **two or more** persons/things to **an equal number of** other persons/things for **each** separately, in turn or in order

John and Mary went by train and plane, **respectively**

(John [**stated 1st**] and Mary [**2nd**] went home by train [**1st**] and plane [**2nd**])

[implies that **John** [1] went by **train** [1] and **Mary** [2] went by **plane** [2]]

The concentrations of zinc, fructose and glucose were, **respectively**, 4.3, 7.8 and 0.1 mM

(Zinc [**stated 1st**], fructose [**2nd**] and glucose [**3rd**] had concentrations of 4.3 mM [**1st**], 7.8 mM [**2nd**] and 0.1 mM [**3rd**])

[implies the concentration of **zinc** [1] was **4.3 mM** [1], **fructose** [2] was **7.8 mM** [2], **glucose** [3] was **0.1 mM** [3]]

NOTE *Overused word*: often used incorrectly, ensure there is **more than one list**

See: [Vice versa](#)

ALERT Check that there are **at least two categories** of items related by **respective**

The therapy includes the assessment and treatment of the **respective** needs of the patients

ERROR *Syntax*: as neither needs or patients are listed, **respective** is *superfluous*

CORRECT by **omitting *respective***

The therapy includes the assessment and treatment of the needs of the patients

ALERT Check that there are **at least two categories** of items related by **respectively**

We used flow cytometry and spectrophotometry, **respectively**

ERROR *Syntax*: as these is nothing to relate these methods to, **respectively** is *superfluous*

CORRECT by **omitting *respectively***

We used flow cytometry and spectrophotometry

ALERT Check that **respectively** is relevant

The concentration of NaCl was 5 mM and of sucrose was 50 mM, **respectively**

ERROR *Tautology*: as **each compound** is associated with **its own** concentration, **respectively** is *superfluous*

CORRECT by **using *one or the other***, not both, by

omitting *respectively*

The concentration of NaCl was 5 mM and of sucrose was 50 mM

rewriting the sentence by sequentially **listing the *compounds*** and their ***concentrations***

The concentrations of **NaCl** and **sucrose** were **5 mM** and **50 mM**, **respectively**

In our laboratory, testicular, epididymal and sperm-milieu proteomes have been examined, **respectively** [7, 8]

ERROR *Syntax*: there are **three** proteomes mentioned but only **two** references linked to them, so **respectively** brings no clarity

CORRECT by

omitting *respectively*

In our laboratory, testicular, epididymal and sperm-milieu proteomes have been examined [7, 8]

inserting a *third reference* for the third proteome

In our laboratory, testicular, epididymal and sperm-milieu proteomes have been examined [7, 8, 9 **respectively**]

Respire/respire

respire to breathe

See: [Back-formation](#)

Rest

See: [Remainder](#)

Rest is/are

is when **rest refers to** something **singular**

Of the **solution** the **rest was** frozen

are when **rest refers to** something **plural**

Of the **cells** the **rest were** digested in trypsin

Rest of... is/are

is when **rest of refers to** something **singular**

The **rest of** the **solution was** frozen

are when **rest of refers to** something **plural**

The **rest of** the **cells were** digested in trypsin

See: [Remainder of... is/are](#)

Restricted

past tense of the verb to restrict

They **restricted** the batches of that culture medium **in** January 2014

(They **limited** the **number of** batches... **on** a set date)

past participle of the verb to restrict

They have **restricted** the batches of that culture medium **since** January 2014

(They **have limited** the **number of** batches... **since** a set date)

past participle used as an adjective They have **restricted** batches of that particular culture medium
(They **have** a **limited supply of** that particular batch...)

Resulted

occurred or followed as a consequence of

NOTE *Overused word*: often used unnecessarily, replace by **what resulted** [or omit]

ALERT Check whether **resulted** should be **replaced** by a **more relevant word**

A **decrease** in normal sperm morphology **resulted**

STYLE *Verbosity*: can be shortened

CHANGE by **omitting** **resulted** and

replacing the **noun** by its related **verb**

Normal sperm morphology **decreased**

Resulting

non-finite forms of the verb to result

a **participle** (verbal adjective) and **gerund** (verbal noun)

as participle occurring or following as a consequence of

See: [Gerunds/participles](#), [Position of modifiers](#)

ALERT Check that **resulting** has a relevant noun to qualify

miRNAs have been shown to correct the abnormal activation of Wnt/ β -catenin signalling **resulting** in inhibited tumour growth

ERROR *Semantics*: ambiguous, it is unclear **what** inhibits tumour growth, the **abnormal activation** or its **correction**

so **this could be interpreted as** the tumour growth's inhibition resulting from

the **abnormal activation** of Wnt/ β -catenin signalling

[**activating** Wnt/ β -catenin signalling]

or

the **correction of the abnormal activation** of Wnt/ β -catenin signalling

[**preventing** Wnt/ β -catenin signalling]

CORRECT [if the **former** is meant] by

replacing **resulting in inhibited** by **such abnormal activation inhibiting** after a **comma**

miRNAs have been shown to correct the abnormal activation of Wnt/ β -catenin signalling, **such abnormal activation inhibiting** tumour growth

CORRECT [if the **latter** is meant] by

replacing **resulting in inhibited** by **such correction inhibiting** after a **comma**

miRNAs have been shown to correct the abnormal activation of Wnt/ β -catenin signalling, **such correction inhibiting** tumour growth

The compounds proved hard to crystallise, **resulting** in reduced yields

ERROR *Semantics*: **resulting** is a participle (verbal adjective) and **compounds** is the nearest noun it can complement

so **this implies** that the **compounds** **caused** the **yields**

CORRECT [if the **difficulty in crystallising** the compounds reduced yields] by

inserting a **noun** for the participle to describe

The compounds proved hard to crystallise, **a fact** **resulting** in reduced yields

replacing **resulting** by **which resulted**

The compounds proved hard to crystallise, **which resulted** in reduced yields

replacing **resulting** by **this resulted** and the **comma** by a **semicolon**

The compounds proved hard to crystallise; **this resulted** in reduced yields

rewriting the sentence by **inserting** a **conjunction** and **clause**

The compounds proved hard to crystallise, **hence** **yields were low**

Because the compounds proved hard to crystallise, **yields were low**

rewriting the sentence by **using** a **phrasal clause**

The compounds proving hard to crystallise, **yields were low**

rewriting the sentence with a **noun** for the participle to define

Crystallisation of the compounds proved difficult, **resulting** in reduced yields

rewriting the sentence by **inserting** a **noun** and a **verb**

The **difficulty** in crystallisation of the compounds **reduced** yields

Resume/résumé

resume verb to begin again, to continue after a pause or interruption

The seminar series **resumes** in April

résumé noun a summary

I gave him a quick **résumé** of events before the meeting

ALERT Check that the subject of **resumes** is capable of pausing and restarting

Administration of vitamin A to vitamin A-deficient rats **resumes** spermatogenesis

ERROR *Semantics*: the administration itself **does not** produce spermatozoa

CORRECT by

replacing **resumes** by **prompted resumption of**

Administration of vitamin A to vitamin A-deficient rats **prompted resumption of** spermatogenesis

rewriting the sentence by **replacing** the **active** by the **passive voice**

Spermatogenesis **was resumed by** administration of vitamin A to vitamin A-deficient rats

Retract/retraction/retraction

retract verb literal meaning
figurative meaning

to draw something back
to take back an assertion

The cat **retracted** (sheathed) its claws
The university **retracted** its claim of ownership

<i>retraction</i>	noun	figurative sense of retract
<i>retraction</i>	noun	literal sense of retract

The **retraction** of the claim followed the Dean's decision
Retraction of the cat's claws was slow in the old animals

Retrieve/return

<i>retrieve</i>	to bring something back, especially if not where it should not be to find or extract (e.g. information from a database)	He retrieved the syringe from the waste bin She retrieved her 1980 data to include in his revised figure
<i>return</i>	to give back something that was taken to go back to a prior situation	He returned the library books Serum levels returned to normal after hormone administration

See: [Collect/obtain/provide/retrieve](#)

ALERT Check that **retrieved** refers to items in the wrong place

Epididymal products are absent from seminal plasma of vasectomised donors and **retrieved** in that from vaso-vasostomised patients
ERROR *Semantics*: the seminal components lacking after vasectomy were never there, not transferred to another place
CORRECT by **replacing retrieved by returned**
 Epididymal products are absent from seminal plasma of vasectomised donors and **returned** to that from vaso-vasostomised patients

Retroactive/retrospective

<i>retroactive</i>	taking effect from a past date (legislation)	Unfortunately, we need a large retroactive increase in Society fees
<i>retrospective</i>	looking back on past events	Our survey was not only comprehensive but also retrospective

Reveal

See: [Find/reveal](#)

Reveal/show

<i>reveal</i>	to expose something hidden	Removing the tunica revealed the tubules below which could be unravelled and cannulated The analysis revealed that androgen receptor expression declined distally in the epididymis
<i>show</i>	to allow, be or cause to be visible	The analysis showed that androgen receptor expression declined distally in the epididymis

See: [Show](#)

Reveal that

to make known previously unknown or secret information
 used when there is **sufficient evidence** for a conclusion to be drawn
 expressed by the following verb in the **declarative** mood The micrographs **revealed that** cells **are** lost because of apoptosis

ALERT Check that the verb following **reveal that** is in the **declarative** mood

Recent results **reveal that** the protein **could inhibit** a specific stage of fertilisation
ERROR *Oxymoron*: **reveals that** introduces something **certain** but the conditional **could** implies a **condition**
CORRECT [if there is **sufficient evidence**] by using the **declarative** mood
 Recent results **reveal that** the protein **inhibits** a specific stage of fertilisation
CORRECT [if there is a **condition**] by providing the **condition**
 Recent results **reveal that** the protein **could inhibit** a specific stage of fertilisation **if present from the time of sperm penetration**
CORRECT [to emphasise **uncertainty**] by omitting **Recent results reveal that**
 The protein **could inhibit** a specific stage of fertilisation

Reverse/revert

<i>reverse</i>	to move in the opposite direction to make something the opposite of what it was to exchange the position or function	The large delivery lorry had difficulty reversing into the parking space reserved for it The change in weight of the epididymis upon castration can be reversed by androgens
<i>revert</i>	to return to a reversible previous condition does not mean to overcome, to get back to	The experimenter and subject reversed roles and the experiment was repeated Epididymal weights reverted to pre-castration values after androgen administration

See: [Inverse/invert/obverse](#)

ALERT Check that **revert** relates to a reversible process

The fertilisation defect caused by low intra-sperm pH could be **reverted** by alkalinising the spermatozoa
ERROR *Syntax*: a **defect cannot** be returned to a previous state, but its **consequences** may be
CORRECT by **replacing reverted by reversed or overcome**
 The fertilisation defect caused by low intra-sperm pH could be **reversed/overcome** by alkalinising the spermatozoa

Not all the effects of orchidectomy can be **reverted** by treatment with androgens
ERROR *Syntax*: **effects cannot** be returned to previous state, but their **consequences** may be
CORRECT by **replacing reverted by reversed or overcome**
 Not all the effects of orchidectomy can be **reversed/overcome** by treatment with androgens

ALERT Check that **reverse** is the **intended word**

There was a **reverse** correlation between testicular weight and the dose of irradiation given
ERROR *Semantics*: the previously stated relationship **is not stated**

CORRECT by **replacing reverse by inverse**

There was an **inverse** correlation between testicular weight and the dose of irradiation given

Revert back

Pleonasm: as **revert** implies going back, **back** is *superfluous*: use **revert**

Review

See: [Overview/preview/review](#)

Reviewer

See: [Referee/reviewer](#)

Revoke

See: [Evoke/invoke/revoke](#)

Revolve/rotate

revolve of two objects: one around another

The Earth **revolves** around the sun once a year

rotate of one object: to move around a central axis, to spin

The centrifuge bucket **revolves** around the central rotor axis

The Earth **rotates** on its axis once a day

The centrifuge rotor **rotates** on its own axis

See: [RCF/rpm](#)

Rhetoric/rhetorical/rhetorical question

rhetoric noun the art persuasive speaking or writing, oratory

His talk was just **rhetoric**, impressive but lacking ideas

rhetorical adjective relating to the art of rhetoric

Repetition is a common **rhetorical** device

rhetorical question a figure of speech questions asked in order to make a statement, spoken for effect rather than for an answer

You don't expect me to believe that, do you?
[I do not believe it]

See: [Redundancy/repetition](#)

Rhyme/rime

rhyme a word that ends with the same sound as another word

rime the syllabic sound (R) following the initial onset (O) comprises a nucleus (N) and possibly a Coda (Co)

See: [Syllables](#)

Rhythm/rhythm

rhythm a strong, regular repeated pattern of movement or sound

See: [Algorithm/paradigm](#), [Exponentiation/logarithms](#)

Right/rightly

right adjective morally good, justified or acceptable

I'm sure we're doing the **right** thing

true or correct as a fact

I do not know the **right answer**

adverb correctly (informal)

He had guessed **right**

exactly, directly, of a precise location or time

Harriet was standing **right** behind her

They went **right** home

Turn **right** at the end of the corrido

I'll be right back

immediately

The car spun **right** off the track

noun what is morally correct, just or honourable

She doesn't know the difference between **right** and wrong

verb to redress or rectify a wrong (mistaken action)

He was determined **to right** the wrongs done to her father

rightly adverb correctly (formal)

If I remember **rightly**, she never gives interviews

in accordance with justice

The key **rightly** belonged to Craig

justifiably, justly

She was **rightly** annoyed by their behaviour

properly

He **rightly** stopped the centrifuge when the alarm bell rang

suitably

Are you **rightly** equipped for the surgery?

Rime

See: [Rhyme/rime](#)

Rise

See: [Raise/rise](#)

Risk

noun a situation involving exposure to danger

The health **risk** of using the small amounts of radio-isotopes that we use is minimal

verb to expose to danger, harm or loss

By working outside the sterile area he **risked** contaminating all the cultures

ALERT Check that **risk** is the intended word

Using the TUNEL assay, we observed an increased **risk** of sperm DNA damage in obese men

ERROR *Semantics*: the assay measures a frequency (**rate**) of DNA damage, though this may predispose the men to **risk** of disease

CORRECT by **replacing risk by rate**

Using the TUNEL assay, we observed an increased **rate** of sperm DNA damage in obese men

Risk for/of

for	a person	There is a risk for the patient if he does not stop smoking
of	a thing	Smokers have a high risk of developing lung cancer

Robust/stringent

robust	sturdy in construction	able to withstand adverse conditions	He put up a robust defence of this thesis
stringent	exacting, precise, strict	used of conditions, regulations, requirements	The criteria for patients to enter the study were stringent Use less- stringent conditions non-specific binding

Roll

See: [Pitch/roll/yaw](#)

Root

See: [Mathematical comparators/operators](#)

Round in shape

Tautology: as **round** is a shape, **shape** is **superfluous**: use **round**

Rule by/of law

rule by law	rule by man, the governing authority is above the law the arbitrary creation of laws which are convenient to the authorities used to shape the behaviour of people laws are often not made known until used
rule of law	the governing authority is not above the law; are all equal under the law the restriction of the arbitrary exercise of power power is subordinated to well-defined and established laws a fundamental requisite is that the law is made known

Rule of thumb

a broadly accurate guide, based on practice rather than theory A useful **rule of thumb** is that about 10 h are needed to analyse 1 h of data

Sacrifice

noun	an act of slaughtering or surrendering a possession as an offering	On this island they still offer sacrifices to their gods
verb	to offer or kill as a religious sacrifice to give up something valued for the sake of other considerations does not mean to kill	On that island they still sacrifice animals to their gods He sacrificed his day off to change the culture medium

See: [Euphemism/innuendo](#)

ALERT Check that **sacrifice** is the intended word

The rats were **sacrificed** 10 days after the operation
ERROR *Semantics*: no religious or other considerations are pertinent
CORRECT by **replacing sacrifice by kill**
The rats were **killed** 10 days after the operation

Safety

See: [Recommended/safety levels](#)

Same/similar/similarly

same	adjective	identical, not different	These reports are the same but sent to different journals
similar	adjective	like, resembling, not identical	These two manuscripts are similar but differ in the order of the main sections
similarly	adverb	in a like manner, in the same way, likewise	The separation of motile spermatozoa was done similarly in both laboratories

See: [Like/similar/similar to](#), [Like/such as](#)

ALERT Check that **same** **is not** used as an **adverb**

They function the **same**
ERROR *Syntax*: **same** is an **adjective** used here as an **adverb** describing a verb (**to function**)
CORRECT by
using an **adverb**

They function **similarly**
using an **adverbial phrase** including **same** as an **adjective**
They function **in the same way**

ALERT Check that **same** is used to mean **identical**

The **same** results were reported by Kurosaki et al. from a study of 54 patients
ERROR *Semantics*: the chances of studies **producing identical results** is slim (but studies may come to the **same** conclusions)
CORRECT by **using similar**
Similar results were reported by Kurosaki et al. from a study of 54 patients

Same... as/that

as **same** is used as an **adjective** defining a **noun** They used the **same programme** as we did

See: [Exact... as/that](#), [The same](#), [Very... as/that](#)

Sample

See: [Probe/sample](#)

Sanitation

cleaning

See: [Cleaning/cleansing/disinfecting/sterilising](#)

Sarcastic

adjectival form of **sarcasm**

See: [Irony/sarcasm/sardonicism](#)

Sardonic

adjectival form of **sardonicism**

See: [Irony/sarcasm/sardonicism](#)

Save

conjunction	other than	We know little about his education, save that his family was poor
preposition	except	No one, save perhaps the technician, knows where the antibiotics are stored
		The lab. was dark, save for one red safety-light by the work bench
verb	to keep safe or rescue from harm or danger	They brought him in to help save the club from bankruptcy
	to keep and store up for future use	She had never been able to save much from her salary
	to keep (data) by moving a copy to computer storage	Save the instructions to a new file

See: [But](#), [Other/otherwise than](#)

s.c.

abbreviation of **subcutaneously** under the skin The vaccine was administered **subcutaneously**

sc./viz. (Latin)

sc.	abbreviation of scilicet [scire licet]	
	it is permitted to know	namely, that is to say, to wit [more specific than i.e.]
	written before examples to provide clarification , remove ambiguity or supply a missing word	
	The archives cite the area, sc. the present lake, where the first laboratory stood	
viz.	abbreviation of videlicet [videlicz]	
	it is permitted to see	as follows, in other words, namely, that is to say [more precise than i.e.]
	written before examples to specify something previously mentioned	
	The thrust of his argument, viz. the novel role of cytoplasmic droplets, was not appreciated	

See: [e.g./i.e.](#)

Scale bar

See: [Equal/equals/equals sign](#), [Magnification/scale bar](#), [Mathematical comparators/operators](#)

Scant/scanty/scarce

scant	attributive adjective	barely sufficient or adequate, not plentiful	He had scant knowledge of the epididymal literature
scanty	predicative adjective	barely sufficient or adequate, not plentiful	His knowledge of the epididymal literature was scanty
scarce	attributive, predictive adjective	occurring in small numbers or quantities, rare	The scarce antibiotics were limited to the human cultures
			The supplies of antibiotics were scarce

See: [Dearth/plethora](#), [Little/rare/scarce](#), [Scarcely/scarcity](#)

Scarcely/scarcity

scarcely	adverb	only just, almost not, hardly	I have scarcely enough antibiotics for the test
		for emphasis with subject-verb inversion	Scarcely had I started when the power failed
scarcity	noun	the state of being scarce or in short supply, shortage	There is a scarcity of anaesthetics

See: [Dearth/plethora](#), [Inversion of verbs and subjects](#), [Little/rare/scarce](#)

ALERT Check that **scarcely** *is not* used with a **negative**

He **didn't** have **scarcely** any grant money left for the equipment needed

ERROR *Syntax*: as **scarcely** is a **negative**, it **needs no** negative verb (**not**) before it

CORRECT [if he did **not** have the grant money] by

replacing **didn't have** by **had**

He **had** **scarcely** any grant money left for the equipment needed

Scarcely... when/than

scarcely... when **Scarcely** had I begun the operation **when** the fire alarm sounded

See: [Inversion of verbs and subjects](#)

Scenario

Style: cliché, replace by **conditions/situation**

Scepticism

doubt as to the truth of something

See: [Certainly/surely](#), [Clearly](#), [Plain/plainly](#)

Scientist that/who

scientist **who** scientists are **people** used in defining and non-defining clauses

See: [Defining/non-defining adjectival clauses](#), [That/which/who](#)

Scratching

non-finite forms of the verb to scratch
a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Fused participles](#), [Gerunds/participles](#)

ALERT Check whether **scratching** is used as a **gerund** or a **participle**

The **rat scratching** was painful to watch

ERROR *Semantics*: this implies that the **rat**, while scratching (**participle**), was painful to watch

CORRECT [if the **scratching** by the rat was painful to watch] by

using a **genitive** and a **gerund**

The **rat's scratching** was painful to watch

Scrupulous

See: [Meticulous/punctilious/scrupulous](#)

SD/SE/SEM

SD standard deviation the dispersion of **values** in **one dataset**
unknown for a **population**

but **calculated** from **samples** drawn from it

SE standard error an **estimate** of the **difference** between a **sample** and **population** value
for **numbers** (Poisson distribution of *N* values)
for **percentages** (binomial distribution *N* values) of 20–80%
if <20, >80%

$$SE = \sqrt{N}$$

$$SE \approx \sqrt{p(100 - p)/N}$$

$$SE = z = 1/(2\sqrt{N}) \quad [\text{where } z = \sin^{-1}\sqrt{p/100}]$$

SEM error of the mean the dispersion of **means** from **many samples**

$$SEM = SD/\sqrt{N}$$

See: [Accuracy/dispersion/precision](#), [Coefficient of correlation/determination/regression/variation](#), [Mean/median/mode](#), [Significant digits](#), [Statistical variance](#)

sd/sf

sd significant digits

sf significant figures

See: [Decimal numerals/places/points](#), [Significant digits](#)

Sea mile

See: [International/nautical/sea mile](#)

Search

See: [Quest/search](#)

Search among/for/of

search among to look through several items

I **searched among** the papers

search for to look for something specific, to seek

He **searched for** a manuscript on cell volume regulation

search of to look for something unspecified

He made a thorough **search of** the literature

Search for/seek

search for to try to find by looking carefully and thoroughly, to seek
past tense and past participle **searched**

The students will **search for** matching entries in the database
Matching entries were **searched for** in the database

seek to try to find by looking carefully and thoroughly, to search for
past tense and past participle **sought**

The students are **seeking** matching entries in the database
Matching entries were **sought** in the database

NOTE interchangeable verb and phrasal verb

ALERT Check that **searched** is used correctly

Proteins that could not be defined were **searched** in the PIR database

ERROR *Syntax*: **search** requires a **preposition**

CORRECT by **replacing searched** by **searched for** or **sought**

Proteins that could not be defined were **searched for/sought** in the PIR database

We **searched** the transcription factor binding sites in the proximal promoter region with the new software
 ERROR *Syntax*: **search** requires a **preposition**
 CORRECT by **replacing searched** by **searched for** or **sought**
 We **searched for/sought** the transcription factor binding sites in the proximal promoter region with the new software

ALERT Check that **seek** is used correctly

The technician was **seeking for** motile cells in the sperm pellet
 ERROR *Syntax*: as **seek** means **to search for**, it **needs no** additional **preposition (for)** after it
 CORRECT by **omitting for**
 The technician was **seeking** motile cells in the sperm pellet

Problems in clinical practice frequently **seek** answers in basic research
 ERROR *Syntax*: **problems** are **insentient and cannot** search for anything
 CORRECT by **rewriting the sentence** and **using the passive voice**
 Answers to problems in clinical practice **are frequently sought** in basic research

sec/secs

sec both the singular and plural abbreviation of the unit **second** (symbol, s)

See: [International system of units](#)

Second/secondly

<i>second</i>	adjective	occurring in position number two in a list with nouns for ordinal numbers to qualify	This is his second publication on the epididymis He objected: first, it was too far; second , he had no time
	ordinal number	coming after the first in time or order	She came second in the class
<i>secondly</i>	adverb	in a list, occurring in position number two	First air-dry, secondly fix and thirdly stain the cells on the slide

See: [Cardinal/ordinal numbers](#)

ALERT Check that **second** *is not* used with a **superlative**

This is the **second highest** grade I have achieved
 ERROR *Semantics*: ambiguous, **second highest** is an oxymoron since highest is a superlative, of which there is only one (nothing is as high) so **this could be interpreted as**
 this is the **second time** I have achieved the highest grade
 or
 a **second-ranked** grade was achieved
 CORRECT [if the **former** is meant] by
being more explicit
 This is the **second time** I have achieved the **highest** grade
 CORRECT [if the **latter** is meant] by
using a hyphenated adjective
 This is the **second-highest** grade I have achieved

ALERT Check that **second-highest** *is not* used with a **preposition**

Cooper has the **second-highest** Impact Factor in the Institute **after** Nieschlag
 ERROR *Semantics*: ambiguous, this implies there is a **first-highest** Impact Factor **after Nieschlag's**, making Cooper's the **third** in rank so **this could be interpreted as**
 Cooper has the **highest** Impact Factor **after** Nieschlag [Cooper is **second** in Impact Factor rank]
 or
 Cooper has the **third-highest** Impact Factor in the Institute [Cooper is **third** in Impact Factor rank]
 CORRECT [if the **former** is meant] by
omitting second-
 Cooper has the **highest** Impact Factor in the institute **after** Nieschlag
omitting after Nieschlag
 Cooper has the **second-highest** Impact Factor in the Institute
inserting brackets to enclose the other scientist
 Cooper has the **second-highest** Impact Factor in the Institute (**after Nieschlag**)
 CORRECT [if the **latter** is meant] by
omitting second- and listing those with Impact Factors ranking **before Cooper**
 Cooper has the **highest** Impact Factor in the Institute **after Nieschlag and Yeung**
replacing second by **third** and **inserting brackets** to list the other scientists
 Cooper has the **third-highest** Impact Factor (**after Nieschlag and Yeung**)

Secretary/secretory

<i>secretary</i>	noun	person who assists with administrative duties	Ask my secretary for a suitable date for the interview
<i>secretory</i>	adjective	producing and discharging a substance	Principal cells control the secretory activity of the epithelium

Seeing

non-finite forms of the verb to see
 a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Gerunds/participles](#), [Position of modifiers](#)

ALERT Check that **seeing** has a relevant **noun** to qualify

Seeing the University clock tower ahead, **the laboratory** could not be far away

ERROR *Semantics:* **seeing** is a participle (verbal adjective) and **laboratory** is the closest noun it can complement **so this implies** that the **laboratory** saw the tower

CORRECT [if an **observer** saw the clock tower] by

inserting a **human element**

Seeing the University clock tower ahead, **we thought** the laboratory could not be far away

Seek/seek for

seek to search for

seek for as **seek** means **to search for**, it **needs no** additional **preposition (for)** after it

See: [Light/phrasal verbs](#), [Search for/seek](#)

Seem/seem as if/seem like/seem that

seem a linking verb

to give the impression of being

used to make a statement less forceful

takes a subject **complement**

She **seems happy**

I **seem** to remember giving precise instructions

seem as if the verb **to seem** with the conjunctive phrase **as if** to appear that

followed by a **clause**

It **seems as if he was going to leave anyway**

seem like the verb **to seem** with the preposition **like** (in a certain manner)

to appear to be, to have the appearance of

followed by a **noun**

It **seems like a cytoplasmic droplet**

seem that the verb **to seem** with the conjunction **that**

to have an impression, especially with reason

followed by a **clause**

It **seems that he was going to leave anyway**

See: [As if/though](#)

ALERT Check that **like is not** used as a **conjunction**

It **seems like** he is going to attend the meeting

ERROR *Syntax:* **like** is used here as a **conjunction** joining two clauses

CORRECT by replacing **like** by a **as if, as though** or **that**

It seems **as if/as though/that** he is going to attend the meeting

Seldom

for emphasis with **subject-verb** inversion **Seldom have** I seen such good monolayers

See: [Infrequent/infrequently/seldom/seldomly](#), [Inversion of verbs and subjects](#)

Select

See: [Choose/opt/select](#)

SE

See: [SD/SE/SEM](#)

Set

to place

See: [Light/phrasal verbs](#)

SEM

See: [SD/SE/SEM](#)

Semantics

See: [Grammar/style](#), [Semantics](#), [Spelling and semantics](#)

Semen/seminal/seminal

semen noun the ejaculate
as **noun adjunct**

Semen was collected into pre-weighed vessels to determine its volume

The WHO manual describes methods of **semen analysis** [the analysis **of semen**]

Semen volume is measured first

[the volume **of semen**]

seminal adjective related to semen

the fluid

Seminal fluid is a suspension of spermatozoa in accessory gland secretions

its components

All major **seminal** components were assayed

its production

Most **seminal** fluid originates from the **seminal** vesicles

its volume

Seminal volume is needed to assess total sperm count

especially important, influencing later events

I recommend the **seminal** work on evolution done by Charles Darwin

You should read his **seminal** work on the epididymis

See: [Back-formation](#), [Pronunciation and semantics](#), [Seminal vesicles/vesicular](#)

Semen

a suspension of **spermatozoa** in **body fluids** from the

ejaculate

ejaculated semen

(seminal fluid)

epididymis

epididymal semen

(epididymal fluid)

testis

testicular semen

(testicular fluid)

See: [Fluid/plasma](#), [Semen/semenal](#), [Washed semen/spermatozoa](#)

Semen is/are

is **semen** is a **mass** noun, which **has no plural** **Semen was** collected by masturbation
the **plural** form takes a **partitive** construction Several **samples of semen were** evaluated per man

Semen/sperm concentration

sperm concentration The number of spermatozoa per ml of semen
semen concentration *Oxymoron*: semen is a multi-component fluid that has no concentration

Semen/sperm density

semen density the weight per unit volume of semen (g/ml) from gravimetric measurements
sperm density the weight per unit volume of spermatozoa (g/ml) from density gradient centrifugation
does not mean sperm concentration [WHO terminology]

See: [Density/intensity](#)

Semen/sperm volume

semen volume the volume of semen (~ml)
sperm volume the volume of a spermatozoon (~fl)

See: [Abbreviations of multipliers and units](#), [Prefixes for decimal multipliers](#)

Semen analysis/parameters/quality

semen analysis analytical **tests** used to determine semen quality We perform **semen analysis** according to the WHO manual
semen parameters **categories** variable semen characteristics The **semen parameters** assessed were sperm concentration and motility
semen quality **values** of analysed semen parameters The **semen quality** of the infertile men was inferior to that of fathers

See: [Parameter/quantity/value](#)

ALERT Check that **semen analysis** refers to semen

On arrival in the laboratory the epididymal aspirate was subjected to **semen analysis** (WHO 2010)

ERROR *Semantics*: WHO (2010) refers to ejaculated **not** epididymal semen

CORRECT by **explaining what was done**

On arrival in the laboratory the epididymal aspirate was **analysed as semen is** (WHO 2010)

Semi-

See: [Prefix list](#)

Semicolon

See: [Full stop/colon/semicolon](#)

Semi-monthly

See: [Bi-monthly](#)

Seminal vesicles/vesicular

seminal vesicles noun the organ
as **noun adjunct** The **seminal vesicles** are male secondary sexual organs
The **seminal vesicle secretions** comprise the major ejaculate portion
[Secretions **of the seminal vesicle** comprise...]
seminal vesicular adjective **of the seminal vesicles** The major part of the ejaculate is formed by the **seminal vesicular** secretions
[... by the secretions **of the seminal vesicle**]

Semi-quantitative

See: [Qualitative/quantitative/semi-quantitative](#)

Semi-weekly

See: [Bi-weekly](#)

Sensible/sensitive

sensible being wise, prudent He was **sensible** and read all the relevant papers before beginning his review
[**only people** can be **sensible**]
sensitive for **people**: having high sensitivity He was **sensitive** to criticism and did not join the meeting after the interview
for **assays**: being able to discriminate small differences A **sensitive** technique can detect low amounts since it has a high **sensitivity**

Sensibility/sensitivity

sensibility being able to respond to complex emotional influences This work offends the **sensibility** of those respecting evidence-based science
[**only people** can **display sensibility**]
sensitivity for assays: the smallest difference measurable The **sensitivity** of the fluorescence assay is high

ALERT Check that **sensibility** is the **intended word**

The discrepancy in values is probably due to differences in the **sensibilities** of the methods used

ERROR *Syntax*: **assays** are **insentient and cannot** appreciate emotional influences

CORRECT by **replacing sensibilities by sensitivities**

The discrepancy in values is probably due to differences in the **sensitivities** of the methods used

Separate/separate

separate forming or viewed as a unit apart or by itself

NOTE *Overused word*: often used unnecessarily [**omit**]

ALERT Check that **separate** is needed

The first aim was the localisation of two **separate** AQPs, AQP7 and AQP11, representative members of two subfamilies

ERROR *Tautology*: as **two** implies separate entities, **separate** is *superfluous*; as **two AQPs** are named, **two** is *superfluous*; as **AQP7** and **AQP11** are named, **AQP** is *superfluous*

CORRECT by **omitting two separate AQPs**

The first aim was the localisation of AQP7 and AQP11, representative members of two subfamilies

Separated gerunds/infinitives/participles

See: [Position of modifiers](#)

Separation of... by... was performed

Style: verbosity, can be shortened: replace by **the... was separated by...**

Separation of the... was accomplished

Style: verbosity, can be shortened: replace by **the... were separated**

Sequela (Latin)

a medical condition that is the consequence of a previous disease or injury
[plural **sequelae**]

Sequester/sequestrate

sequester to isolate or hide away

to form a chelate with an ion, atom or molecule

He was **sequestered** in the lab. over the weekend

EDTA **sequesters** calcium and so prevents the acrosome reaction

sequestrate to take legal possession of assets until claims have been met

The equipment in question was **sequestered** by the company

ALERT Check that **sequestrate** is the intended word

The blood-testis barrier forms an immunological barrier to **sequestrate** germ cell antigens from the circulation

ERROR *Syntax*: the testis has **no legal possessions**

CORRECT by **replacing sequestrate** by **sequester**

The blood-testis barrier forms an immunological barrier to **sequester** germ cell antigens from the circulation

Sequitur

See: [Non sequitur/sequitur](#)

Serendipitous

See: [Fortuitous/inadvertent/serendipitous](#)

Serum

See: [Blood/plasma/serum](#)

Serves the function of being

Style: verbosity, can be shortened: replace by **is**

Sesqui-

See: [Prefix list](#)

Several

See: [Few/several](#)

Severe/severely

severe adjective very great (of something bad)
severely adverb to an undesirably great degree

The gene defect causes a **severe**, deforming **disease**
The gene defect causes a **severely deforming** disease

[the **disease** is **severe**]

[the **deformity** is severe]

See: [Adjectives](#), [Adverbs](#)

Sex

See: [Gender/sex](#)

Shall/should

shall for **all** persons, singular/plural
ought to, to be obliged to

for **1st** person, singular/plural

in direct speech

simple future tense

future perfect tense

for **2nd, 3rd** persons, singular/plural

for emphasis

simple future tense

future perfect tense

in adverbial clauses of intention present tense

Shall I send it by Courier-service?

[less formal than **should**]

"I **shall** do it tomorrow"

"We **shall** have finished it by then"

"He **shall** do it tomorrow"

"They **shall** have finished it by then"

It is intended that the work **shall** be finished this week

<i>should</i>	for all persons, singular/plural ought to, to be obliged to for 1 st person, singular/plural in reported speech	future-in-the-past future perfect-in-the-past	Should I send it by Courier-service? [more formal than shall] I said, "I should do it tomorrow" We said, "We should have finished it by then"
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See: [Auxiliary verbs](#), [Future tense of direct/indirect speech](#), [Idiomatic word usage](#), [Modal/non-modal/quasi-modal verbs](#), [Moods of verbs](#), [Shall/should](#), [Should](#), [Should/would](#)

Shall/will

<i>shall</i>	simple future for emphasis	for the 1st person , singular/plural for the 2nd/3rd person , singular/plural	I shall leave at 9 a.m. Whether you like it or not, he shall leave at 10 a.m.
<i>will</i>	simple future for emphasis	for the 2nd/3rd person , singular/plural for the 1st person , singular plural	He will leave at 10 a.m. Despite what you say, we will leave at 10 a.m.

See: [Auxiliary verbs](#), [Modal/non-modal/quasi-modal verbs](#), [Moods of verbs](#), [Shall/should](#), [Should/would](#), [Will](#)

She

See: [Her/she](#), [Person of verbs](#)

Short

See: [Brief/short](#)

Shortly

See: [Briefly/shortly](#)

Should

a **modal auxiliary verb** followed by a **base infinitive** or **past participle**

for all persons, singular/plural ought to, to be obliged to	for expectations for necessity for obligations	I should <i>finish</i> by lunch time You should <i>take</i> your umbrella; it's going to rain You should <i>sterilise</i> the bench before working on cultures Should I <i>send</i> it by Courier-service? [more formal than shall]
for the 1st person, singular/plural for liking, preferring		I should <i>like to submit</i> my paper to your journal We should <i>prefer</i> another opinion I thought that I should <i>arrive</i> on Monday She said that I should <i>live</i> to regret it
for reporting text with shall	future-in-the-past future perfect-in-the-past	We believed that we should <i>have finished</i> by the weekend The librarian requested that he should <i>be</i> quiet The librarian requested that he [should] <i>be</i> quiet
for creating the subjunctive mood often elided in speech and text		

See: [Auxiliary verbs](#), [Idiomatic word usage](#), [Moods of verbs](#), [Should/would](#), [Subjunctive mood](#)

ALERT Check that **should** is the **intended word**

The acrosome reaction **should be stimulated** by A23187 but it did not occur in our experiments
 ERROR *Semantics*: **should** implies a duty or expectation but no evidence for this is given
 CORRECT [if a **presumption** of stimulation by A23187 was the basis for the experiments] by
 using a more **specific words** meaning **considered to be true** on the basis of evidence
 The acrosome reaction **is presumed to be stimulated** by A23187 but it did not occur in our experiments
 The acrosome reaction **has been shown to be stimulated** by A23187 but it did not occur in our experiments
 The acrosome reaction **is stimulated** by A23187 but it did not occur in our experiments

Should/would

<i>should</i>	for the 1st person , singular/plural for liking, preferring for reporting the 1 st person text with "shall"	I should <i>like to publish</i> my paper in Nature We should <i>prefer</i> another journal I thought that I should <i>arrive</i> at 7 p.m. We thought that we should <i>arrive</i> tomorrow We believed that we should <i>have finished</i> by the weekend
	for all persons, singular/plural for creating the subjunctive mood for expectations for necessity for obligations	I should <i>do</i> it, if I could If he should <i>do</i> that, I would help him I should <i>finish</i> by lunch time He should <i>use</i> a scalpel not scissors You should <i>sterilise</i> the instruments first
<i>would</i>	for the 2nd/3rd person , singular/plural for liking, preferring for reporting the 3 rd person text with "will"	They would <i>like to submit</i> their paper to Nature She would <i>prefer</i> another journal He said that he would <i>write</i> today They said that they would <i>arrive</i> next week
	for all persons, singular/plural for creating the conditional mood for resolve for habits	He would <i>do</i> it, if he could Despite the advice, she would <i>go</i> He would <i>read</i> his emails every day at 9 a.m.

for suggestions

If asked, she **would help** you

See: [Shall/will](#), [Should](#), [Would](#)

ALERT Check whether **would** is required

I **would** be grateful if you **could** send the comments within three days

ERROR *Syntax*: the main clause requires the **declarative**, the conditional clause the **conditional**

CORRECT by **replacing** the **1st** person **would** by **should** and **could** by **would**

I **should** be grateful if you **would** send the comments within three days

He **should** be grateful if you **could** send the comments within three days

ERROR *Syntax*: the main clause requires the **declarative**, the conditional clause the **conditional**

CORRECT by **replacing** the **3rd** person **should** by **would** and **could** by **would**

He **would** be grateful if you **would** send the comments within three days

Show

to be, to allow or to cause to be visible followed by the **declarative** mood Studies **show** that vitamin D **enhances** cholesterol outflow

See: [Claim/demonstrate/establish/show](#), [Identify/indicate/show](#), [Reveal/show](#)

Show that

used when there is **sufficient evidence** for a conclusion to be drawn

expressed by the following verb in the **declarative** mood The result **show that** the protein **mediates** a specific stage of fertilisation

See: [Certainty/uncertainty](#)

Showed

See: [Found/showed](#)

Showed/shown

showed **simple past** tense of the verb to show followed by the **past declarative** tense

In 1980 Yeung et al. **showed** that carnitine transport **was** active

shown **past participle** of the verb to show after the **present declarative** tense
present perfect and before the **present declarative** tense
past perfect and before the **past declarative** tense

In Fig. 2A the percentage of DNA-damaged spermatozoa **is shown**
It **has been shown** that epididymal carnitine transport **is** active
It **had been shown** by 1980 that carnitine transport **was** active

See: [Tenses of the declarative and conditional moods](#)

NOTE *Overused word*: often used unnecessarily, replace by **what was shown** [or omit]

ALERT Check whether **shown** should be **replaced** by a **more relevant word**

A **change** in gene expression was **shown** after the treatment

STYLE *Verbosity*: can be shortened: **uninformative** as the nature of the change is not given

CHANGE by **rewriting the sentence** by

omitting shown and **replacing** the **noun** by its related **verb**

Gene expression **changed** after the treatment

Showed an inhibitory activity towards tyrosine phosphorylation

Style: verbosity, can be shortened: replace by **inhibited tyrosine phosphorylation**

Shown

See: [Showed/shown](#)

Shown here for illustration

Style: verbosity, can be shortened: replace by **shown here**

Sic (Latin)

so, thus written after a word or passage **that appears odd** or **erroneous**

indicates that it follows an **exact quotation** (including errors of spelling or syntax)

usually italicised within square brackets

The **epididymus** [*sic*] is an important organ for male fertility

(The **epididymis** is...)

He said, 'It is possible that it **could be** [*sic*] due to vitamin-deficiency'

(... that it **is** due to...)

See: [Paraphrase/quotation/verbatim](#)

Signaled/signalled

signalled **signal** is a **polysyllabic** word with **no emphasis** on the **last syllable**

(the final consonant **is doubled** when adding a suffix and the consonant is **L** [or **R**])

Signaling/signalling

signalling **signal** is a **polysyllabic** word with **no emphasis** on the **last syllable**

(the final consonant **is doubled** when adding a suffix and the consonant is **L** [or **R**])

Significant/signification/significative

significant statistical concept providing proof of belonging to a particular population
 non-statistical concept signifying something, having a meaning, appreciable, considerable, important, marked

See: [Back-formation](#), [Insignificant/not significant/significant](#)

Significant figures

See: [Significant digits](#)

Significant finding

Style: verbosity, can be shortened: replace by **significant**

Significantly

used only to indicate statistical significance (with the given P value)
not used to indicate extent

ALERT Check that **significantly** is only used with the **comparative** form of the adjective

Sperm concentration after treatment was **significantly higher compared with/in comparison with** that of the controls

ERROR *Tautology*: as **higher** is a **comparative** adjective, and the prepositional phrases **imply a comparison**, one term is **superfluous**

CORRECT by **using one or the other**, not both, by

replacing **compared with/in comparison with** by **than**

Sperm concentration after treatment was **significantly higher than** that of the controls

replacing **higher** by **high**

Sperm concentration after treatment was **significantly high compared with/in comparison with** those of the control

Similar

See: [Contrari-/like-wise](#), [Same/similar/similarly](#)

Similar in every detail

Style: verbosity, can be shortened: replace by **the same**

Similar in size compared with...

Tautology: as **similar** implies a comparison, **compared** is **superfluous**: replace by **similar in size to...**

See: [Comparative/superlative](#)

Similarly

See: [Contrari-/like-wise](#), [Same/similar/similarly](#)

Simile

See: [Metaphor/simile](#)

Simultaneous

See: [Coeval/concurrent/contemporary/contemporaneous/simultaneous](#)

Sine qua non (Latin)

abbreviation of **condicio sine qua non** an essential condition The internet blackout was the **sine non qua** of our failure to meet the deadline

See: [Perquisite/prerequisite](#), [Plain English](#)

Since

adverb relates to the **period** from a **given time** until the **present**

used with the **present perfect** tense

I used to work in that laboratory but it **has since been** demolished

conjunction as, because, for

used with a **simple** tense

Flow cytometry **is/was** used **since** it is more precise than visual assessment

preposition relates to the **period** from a **given time** until the **present**

used with the **present perfect** tense

I **have been doing** research **since** 11.00 today

I **have worked** on the epididymis **since** 1974

See: [Ago/by/since](#), [Because/for/since](#), [Since/until](#)

ALERT Check that the use of **since** **does not** cause confusion

Since they spoke he **changed** his mind

ERROR *Semantics*: ambiguous, it is unclear which meaning of **since** is meant
 so **this could be interpreted as**

he changed his mind **from the time** they spoke

[since as a **preposition**]

or

he changed his mind **because** of what was spoken

[since as a **conjunction**]

CORRECT [if the **former** is meant] by

using the **present perfect tense**

Since they spoke he **has changed** his mind

rewriting **the sentence** and **being more specific**

He **changed** his mind **after** they spoke together

CORRECT [if the **latter** is meant] by

rewriting *the sentence* and replacing *since* by *because*

He **changed** his mind **because** of what they spoke about

Since... therefore

Tautology: as both **since** and **therefore** mean **for that reason** and introduce a **conditional clause**, one word is **superfluous**: use **one or the other**, not both

See: [Because... therefore](#), [So... therefore](#)

ALERT Check the **number of conjunctions** when using **since**

Since spermatozoa are in a fixed concentration of progesterone, **therefore**, they leave the well by chance, not by chemotaxis

ERROR *Tautology*: as both **since** and **therefore** are conjunctions, one word is **superfluous**

CORRECT by using **one or the other**, not both, by

omitting therefore

Since spermatozoa are in a fixed concentration of progesterone, they leave the well by chance, not by chemotaxis

omitting since

Spermatozoa are in a fixed concentration of progesterone, **therefore** they leave the well by chance, not by chemotaxis

Since/until

since refers to action from a **specific time** on with the **present perfect** tense

I **have worked** on the epididymis **since** 1974

until refers to the a **period** of time, a duration with the **past perfect** tense

Until I went to Vanderbilt, I **had been doing** testicular research

See: [By/until](#)

Single/sole

single only one of many

A **single** test is inadequate for proving failed volume regulation

[there is more than one available test]

sole one and only

My **sole** aim is to further research on the epididymis

[I have no other aim]

ALERT Check that **single is not** used with words **implying unity**

The one **single** mistake he made was very obvious

ERROR *Pleonasm*: as single means only one, there cannot be **more than one** single mistake

CORRECT by using **one or the other**, not both, by

omitting one

The **single** mistake he made was very obvious

omitting single

The **one** mistake he made was very obvious

replacing one single by sole

The **sole** mistake he made was very obvious

Singing

non-finite forms of the verb to sing

a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Fused participles](#), [Gerunds/participles](#)

ALERT Check whether **singing** is used as a **gerund** or a **participle**

They do not like him **singing** in the laboratory

ERROR *Semantics*: fused participle, the **objective** case implies that they **do not like him**

CORRECT [if they do not like the fact that **he sings**] by

using the **genitive** and a **gerund**

They do not like **his singing** in the laboratory

Single/singular

single adjective only one, not one of several

The epididymis comprises a **single** convoluted tubule

singular adjective exceptionally good or great

He had the **singular** good fortune to work with experts on the epididymis

in grammar of only one word or form

"has" is the 3rd person **singular** form of the verb "to have"

noun in grammar the singular number

I wrote thesis, in **the singular**, for a good reason

See: [Person of verbs](#), [Singular/plural verbs](#)

ALERT Check that the use of **singular is not** confusing

The epididymis comprises a **singular** tube

ERROR *Semantics*: ambiguous, it is **unclear** whether **single** (only one) or **singular** (exceptional) is meant

CORRECT [if the **former** is meant] by

replacing singular by single

The epididymis comprises a **single** tubule

CORRECT [if the **latter** is meant] by

rewriting the sentence to indicate **what** is **exceptional**

The epididymis comprises a tube with an **exceptional function**

Site

a location where a particular event has occurred, is occurring or will occur

The epididymis is the **site** of sperm maturation and storage

See: [Origin/source](#)

ALERT Check that **site** *is not* used with a word meaning a location

The epididymis is the **site** where sperm maturation and storage occur

ERROR *Tautology*: as **site** is defined as **where** something occurs, one word is *superfluous*

CORRECT by

omitting the site

The epididymis is **where** sperm maturation and storage occur

omitting occur and **replacing where** by **of**

The epididymis is the site **of** sperm maturation and storage

Sitting

non-finite forms of the verb to sit

a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Gerunds/participles](#)

ALERT Check that **sitting** refers to an object **that can be seated**

Sitting in the social room, **an idea** struck the student

ERROR *Semantics*: **sitting** is a participle (verbal adjective) and **idea** is the nearest noun it can complement

so this implies that an **idea** was sitting in the social room

CORRECT [if the **student** was sitting in the social room] by

inverting the word order and **using the passive voice**

Sitting in the social room, **the student was struck** by an idea

Situation

a set of circumstances in which one finds oneself, a state of affairs

NOTE *Overused word*: often used unnecessarily, replace by **what the situation was** [or omit]

Skilful/skillful

skilful having or showing skill

Skim/skimmed milk

skim confusion with **American English**

skimmed Non-specific antibody binding was blocked by the addition of **skimmed milk powder**

See: [Condensed/evaporated/skimmed milk](#)

Skipped

Style: **layman** terminology, colloquial speech, replace by **omitted**

Slowly

See: [Gradually/slowly](#)

Small/smaller

small the **absolute (positive)** form of the adjective
used with **comparative prepositional phrases**

The values were **small compared with** those of the control

The values were **small in comparison with** those of the controls

smaller the **comparative** form of the adjective
used with the conjunction **than**

The values were **smaller than** those of the control

ALERT Check that the **smaller** *is not* used with phrases **implying comparison**

The values were **smaller compared with/in comparison with** those of the controls

ERROR *Tautology*: as **smaller** is a **comparative** adjective, and the prepositional phrases **imply a comparison**, one term is *superfluous*

CORRECT by **using one or the other**, not both, by

replacing compared with/in comparison with by **than**

The values were **smaller than** those of the control

replacing smaller by **small**

The values were **small compared with/in comparison with** those of the control

Small letters

See: [Lower/upper case](#)

Small minority of

Style: verbosity, can be shortened: replace by **few**

Small numbers of

Style: verbosity, can be shortened: replace by **few**

Small percentage of

Style: verbosity, can be shortened: replace by **few**

Small proportion of

Style: verbosity, can be shortened: replace by **few**

Small in size

Pleonasm: as **small** implies size, **size** is *superfluous*: use **small**

Smaller in size

Pleonasm: as **smaller** implies size, **size** is *superfluous*: use **smaller**

Smart/smartly

smart	adjective	clean, tidy, well-dressed (formal) quick, brisk (formal) having or showing a quick-witted intelligence (informal)		For the Official Opening, the personnel all looked smart He was late, so set off at a smart pace He was smart enough to know which lecturer would help him Be smart : cross at the pedestrian crossing
smartly	adverb	in a smart (clean, tidy) manner	define a <i>verb</i> an <i>adjective</i>	He dressed smartly for the meeting He was a smartly dressed young man

So

adverb	defining a <i>verb</i> defining an <i>adjective</i> precedes the absolute (positive) form of the adjective refers to something already mentioned for emphasis	in such a way extremely, to such a great extent with no subject-verb inversion		She so insulted the students that they boycotted her lectures This method is so good If he thinks that he never says so It was so terrible a disease that the patient was quarantined The cells were so infected that the incubator had to be sterilised So infected were the cells that the incubator had to be sterilised Centrifugation was adequate so as to give a clear supernatant
conjunction	and for this reason, so, therefore, thus	with subject-verb inversion		

See: [And so/so/so that](#), [Inversion of verbs and subjects](#), [So... /such a](#)

So... a

when **so** modifies an *adjective* in the same noun phrase as the **indefinite article**
the **determiner** comes **second** It was **so terrible a** disease that the patient was placed in quarantine

See: [Adjectives](#), [Determiners](#)

So... /such a

so... a	adverb	can define an <i>adjective</i>	I have not read so detailed a grammar treatise before	
such a	adjective	can define a <i>noun</i> used for emphasis	I have not read such a grammar treatise before Such a viewpoint has not been heard for a long time	(a viewpoint such as this has not been heard)

So... as to/that

so... as to	to such a great extent... as to	followed by a base infinitive	She was so presumptuous as to apply for the position of head technician
so... that	to such a great extent... that	followed by a clause	She was so presumptuous that she applied for the head technician position She was so talented that she was offered the position of head technician

So... therefore

Tautology: as both **so** and **therefore** mean **for that reason** and introduce a **conditional clause**, one word is *superfluous*: use **one or the other**, not both

See: [Because... therefore](#), [Since... therefore](#)

So/so much

so	to such a great extent	precedes the absolute (positive) form of the adjective	This method is so good
so much	a particular but unspecified quantity	precedes the comparative form of the adjective	That method is so much better

So/such

so	adverb	defining a <i>verb</i> defining an <i>adjective</i>	in such a way extremely, very much	She so insulted the students that they did not attend her lectures It was so terrible a disease that the patient was placed in quarantine
such	adjective	defining a <i>noun</i>	of the type previously mentioned to so high a degree, so great	She directed such insults at the students that they boycotted her talks It was such a terrible disease that the patient was quarantined

See: [Determiners](#)

So/therefore

so	for the reason that, so that	He stopped research early so he could attend the seminar
therefore	as a result	He stopped research early; therefore he could attend the seminar

See: [And so/so/so that](#), [In order to/so as to/to](#)

So/too

so	for emphasis	followed by a conjunction	He was so tired that he could not sleep
too	to a higher degree than is desirable, excessively	followed by a full infinitive	He was too tired to sleep

So-called

indicates an unusual, non-conventional or peculiar use of a word or a phrase
often followed by the **word** or phrase enclosed in quotation marks the first time mentioned

Early success was achieved by employing the **so-called 'conventional'** sperm-selection methods

See: [Inverted commas](#)

So as to

See: [In order to/so as to/to](#)

So far/thus far/to date

<i>so far</i>	to a certain limited extent	The antibody can provide protection only so far
	until now, thus far, to date	It is not clear so far what caused the proliferation
<i>thus far</i>	up to now, so far, to date	Thus far it is not clear what caused the proliferation
<i>to date</i>	up to this time, so far, thus far	To date it is not clear what caused the proliferation

So far as it goes

See: [As/so far as it goes](#)

So long as

See: [As/so long as](#)

So much/much as/much so

<i>so much</i>	indicates a particular but unspecified quantity	He did so much but no more
<i>so much as</i>	even	He left the seminar without so much as a word to anyone
<i>so much so</i>	to such an extent that	I was fascinated by the subject so much so that I wrote a review on it

See: [So/so much](#)

So that

See: [And so/so/so that](#)

Software/software

<i>software</i>	software is a mass noun, which has no plural	The software <i>was</i> used to analyse the data
	the plural form takes a partitive construction	Two sources of software <i>were</i> used to analyse the data
	or a rewritten sentence with software as an adjective	Two software programs <i>were</i> used to analyse the data

See: [Program/programme](#)

Sole

See: [Single/sole](#)

Solecism

a grammatical mistake in speech or writing any violation of idiom or grammar Reviewers should indicate any **solecisms** in the manuscript

See: [Cliché/idiom/proverb](#), [Pleonasm/tautology](#)

Solid

See: [Continuous/solid/unbroken line](#), [Filled/solid symbols](#)

Solidus

See: [Slash/solidus](#)

Solution

See: [Emulsion/solution/suspension](#)

Solve

See: [Resolve/solve](#)

Some

determiner	an unspecified amount or number of	I made some money running the course at weekends
	used to refer to someone or something unknown or unspecified	I was talking to some foreign student about that yesterday
	used with a number, approximately	Some five languages are spoken on this institute
pronoun	an unspecified number or amount of people/things	Here are some of our suggestions

See: [About/some](#), [Any/some](#), [Determiners](#)

Some/some of

<i>some</i>	Some spermatozoa were acrosome-reacted
<i>some of</i>	Some of the spermatozoa were hyperactivated

Style: **of** is **unnecessary**, **some** alone is **sufficient**

NOTE interchangeable units

Some is/are

<i>is</i>	when what some refers to is singular	Of the viscous semen some was lost during processing
<i>are</i>	when what some refers to is plural	Of the motile spermatozoa some were acrosome-reacted

Some... is/are

<i>is</i>	when what some... <i>refers to</i> is singular	Some semen was lost during collection
<i>are</i>	when what some... <i>refers to</i> is plural	Some tubes were broken in the centrifuge

Some of... is/are

<i>is</i>	when what some of... <i>refers to</i> is singular	Some of the syllabus is taught in the first term
<i>are</i>	when what some of... <i>refers to</i> is plural	Some of the spermatozoa were acrosome-reacted

Some of the...

some of the refers to **several** of a **plural group**
should not be used with terms implying only one (only, superlatives [best, first, most])

See: [Some of the best](#), [Some of the first](#), [Some of the most](#), [Some of the only](#)

ALERT Check that **some of the...** *is not* used with a term **implying only one**

Our institute has **some of the most** qualified personnel in this area

ERROR *Oxymoron*: **some of the** implies there is **more than one** but there is **only one superlative** (**most**: no one is as qualified)

CORRECT [if they **are** the most qualified] by

omitting some of

Our institute has **the most** qualified **personnel** in this area

CORRECT [if they **are not** the most qualified] by

replacing the **superlative** by the **comparative** form of the adjective

Our institute has **some of the more** qualified personnel in this area

replacing the **superlative** by the **absolute (positive)** form of the adjective

Our institute has **some of the well** qualified personnel in this area

omitting some of the... altogether

Our institute has **well qualified** personnel

These are **some of the highest/lowest** grant rankings the institute has received

ERROR *Oxymoron*: **some of the** implies there is **more than one** but there is **only one superlative** (**highest/lowest**: nothing is as high/low)

CORRECT [if it **is** the highest/lowest ranking] by

replacing these are some of by **this is** and using a **singular noun**

This is **the highest/lowest** grant **ranking** the institute has received

CORRECT [if it **is not** the highest/lowest ranking] by

replacing the **superlative** by the **comparative** form of the adjective

These are **some of the higher/lower** grant rankings the institute has received

replacing the **superlative** by the **absolute (positive)** form of the adjective

These are **some of the high/low** grant rankings the institute has received

omitting some of the... altogether

These are **high/low** grant rankings

Some of the... is/are

<i>are</i>	what some of the... <i>refers to</i> (a plural group) is the head noun	Some of the more important documents are in our library
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Some of the best

Oxymoron: **some of the** refers to **some** of a **plural group** but **best** is a superlative (of which there is only **one**: nothing is its equal)

See: [Among the best](#), [Comparative/superlative](#), [One of the best](#)

ALERT Check whether **best** should be used

We have **some of the best** students

ERROR *Oxymoron*: **some of the** refers to **more than one** but there is **only one superlative** (**best**: no one is as good)

CORRECT [if they **are** the best] by

omitting some of and using a **singular noun**

We have **the best student**

CORRECT [if they **are not** the best] by

replacing the **superlative** by the **comparative** form of the adjective

We have **some of the better** students

replacing the **superlative** by the **absolute (positive)** form of the adjective

We have **some of the good** students

omitting some of the best altogether

We have **good** students

Some of the first

Oxymoron: **some of the** refers to **some** of a **plural group** but **first** is a superlative (of which there is only **one**: nothing is its equal)

See: [Among the first](#), [Comparative/superlative](#), [One of the first](#)

ALERT Check whether **first** should be used

We have **some of the first** microscopes designed in the institute

ERROR *Oxymoron*: **some of the** implies **more than one** but there is **only one superlative** (**first**: nothing occurs earlier)

CORRECT [if they **are** the first designed] by

omitting some of and using a **singular noun**

We have **the first microscope** designed in the institute
 CORRECT [if they **are not** the first designed] by
 replacing the **superlative** by the **comparative** form of the adjective,
 We have **some of the earlier** microscopes designed in the institute
 replacing the **superlative** by the **absolute (positive)** form of the adjective
 We have **some of the early** microscopes designed in the institute
 omitting **some of the first** altogether
 We have **some** microscopes designed in the institute

Some of the most

Oxymoron: **some of the** refers to **some** of a **plural group** but **most** is a superlative (of which there is only **one**: nothing is its equal)

See: [Among the most](#), [Comparative/superlative](#), [One of the most](#)

ALERT Check whether **most** should be used

We have **some of the most expensive** microscopes in the institute
 ERROR *Oxymoron:* **some of the** implies **more than one** but there is **only one superlative** (**most**: nothing is as expensive)
 CORRECT [if they **are** the most expensive] by
 omitting **some of** and using a **singular noun**
 We have **the most expensive microscope** in the institute
 CORRECT [if they **are not** the most expensive] by
 replacing the **superlative** by the **comparative** form of the adjective,
 We have **some of the more expensive** microscopes in the institute
 replacing the **superlative** by the **absolute (positive)** form of the adjective
 We have **some of the expensive** microscopes in the institute
 omitting **some of the most** altogether
 We have **expensive** microscopes in the institute

Some of the only

Oxymoron: **some of the** refers to **some** of a **plural group** but **only** implies there is just **one**

See: [Among the only](#), [One of the only](#)

ALERT Check whether **only** should be used

The institute has received **some of the only** high value prizes in the University
 ERROR *Oxymoron:* **some of the** implies **more than one** but **only** implies there is just **one**
 CORRECT [if it is the only high value prize] by
 omitting **some of** and using a **singular noun**
 The institute has received **the only** high value **prize** in the university
 CORRECT [if it is **one of many** high value prizes] by
 replacing **the only** by **several**
 The institute has received **some of the several** high value prizes in the University

Some body/somebody

<i>some body</i>	general determiner followed by a noun	refers to a particular body	I assume some body will be available for dissection today
<i>somebody</i>	indefinite third person pronoun	refers to one of several people	Somebody has been trying to hack our computers

Somebody is/are

is **somebody** *refers to one person* **Somebody** from our lab. *is* going to get the prize this year

Someone

indefinite third person pronoun **one** of several people

See: [Anyone/someone](#)

Someone is/are

is **someone** *refers to one person* At the end of the lecture **someone is** asked to clean the whiteboard

Some thing/something

<i>some thing</i>	general determiner followed by a noun	refers to an often unknown item	I can't remove it; some metal thing is stuck in the gears
<i>something</i>	indefinite third person pronoun	refers to one of several things	We had to stop for something to eat

Something is/are

is **something** *refers to one thing* When he is present **something** unfortunate *is* always likely to happen

Some time/some times/sometime/sometimes

<i>some time</i>	general determiner followed by a noun	refers to no particular time	We should arrange some time for our discussion
<i>some times</i>	general determiner followed by a noun	refers to particular times	Some times on the train timetable are wrong
<i>sometime</i>	adjective	former	He was the sometime editor of the journal
	adverb	at an unknown or unspecified time	They left the lab. sometime after six o'clock
<i>sometimes</i>	adverb	occasionally, not all of the time	He sometimes arrives late for seminars

See: [Ex-/former](#)

Sonicate/sonificate/sonify

sonicate to subject a biological sample to ultrasonic vibration to fragment the cells, macromolecules and membranes

See: [Back-formation](#)

Sonicated/sonificated/sonified

sonicated past participle of the verb **to sonicate**

See: [Back-formation](#)

Sonication/sonification

sonication the process of sonicating a biological sample

See: [Back-formation](#)

Soon

See: [Early/soon/sooner](#), [Immediately/promptly/quickly/soon](#)

Sophist

a person using clever but unsound reasoning, especially in relation to moral questions; a casuist

See: [Casuistic/sophistry](#)

Sophisticated

advanced, expensive, new, technical

Sophistry

See: [Casuistic/sophistry](#)

Sort/sorts of

sort of adjectival phrase (informal)

to some extent, in some way or another placed before a **noun**

It was some **sort of sperm storage area**

partitive construction

its object is

singular

as subject

the **partitive construction itself (singular)** is the head noun

The student knows this **sort of experiment**

This **sort of** experiment **is** always difficult to fund

sorts of partitive construction

its object can be

singular

can be

plural

as subject

the **partitive construction itself (plural)** is the head noun

The student knows **these sorts of experiment**

The student knows **these sorts of experiments**

These **sorts of** experiments **are** expensive

ALERT Check that **sort of is not** placed before an **adjective**

It was **sort of sad** to see him past his prime

STYLE *Word usage:* layman terminology, colloquial speech meaning a little or in some way, to some (great or small) extent

CHANGE by

omitting sort of

It was **sad** to see him past his prime

replacing sort of by rather

It was **rather sad** to see him past his prime

Sort/s of... is/are

is as **sort** is **singular** This **sort of** problem **is** familiar to the technician

are as **sorts** is **plural** These **sorts of** problem **are** familiar to the technician

Sought

See: [Search for/seek](#)

Source

See: [Origin/source](#)

Southern blots

See: [Eastern/northern/Southern/western blots](#)

Sparing

moderate, economical Be **sparing** with the lubricant, as we have little left

Sparing off/in/with

sparing of relates to **people**

For their initial project she was **sparing of** the new influx of **students**

sparing in relates to **items**

He was **sparing in** his **praise** of the poster-prize winners

sparing with relates to **items**

He was deliberately **sparing with** his **words**

Speak/talk

speak to say something in order to convey information, to have a conversation, to talk

He **speaks** well during his seminars

talk to converse or communicate by spoken words, to have a conversation, to speak

She **talks** too much during lunch

Speak for/of

peak for to express the position of others In this matter she **speaks for** all technicians the oppressed
peak of to refer to He **speaks of** his tutor as his idol

Specially

See: [Especially/specially](#)

Speciality/specialty

speciality an area of study in which much effort has been devoted Her **speciality** was in vivo cannulation of small luminal tubules
 a branch of medicine or surgery His **speciality** is andrology—especially epididymal function
specialty confusion with **American English**

Speciation

See: [Homologue/orthologue/parologue/speciation](#)

Species

See: [Genus/species](#)

Species is/are

species is considered a singular **and plural** noun This **species is** found in the Amazon
 These **species are** endangered

Specific for/of/to

specific to belonging or relating uniquely to a particular subject

Specious

See: [Fallacious/sophistry/specious](#)

Spectrum

band of colours produced by separation of the components of light according to wavelength
 used to classify something in terms of its position on a scale between two extreme points
does not mean range

See: [Interval/range](#)

Speculate

to form a theory or conjecture about a subject without firm evidence

Speculate that

to suppose something is true (without the evidence to confirm it)
 used when there is **insufficient evidence** for a conclusion to be drawn
 expressed by the following verb in the **declarative** mood We **speculate that** the process **is** androgen-dependent

See: [Certainty/uncertainty](#)

Speed

See: [Frequency/rate/speed](#), [Speed/velocity](#)

Speed/velocity

speed the rate at which something occurs He hikes at an average **speed** of 4 **km per h**
velocity speed in a **given direction** CASA machines provide values for straight-line, averaged-path and curvilinear **velocity**

NOTE as a change in either **speed** or **direction** changes velocity, a rotating object's velocity **is not** constant

See: [Frequency/rate/speed](#), [Haste/speed](#)

Spend/waste

spend to pass time in a specified way
 with a **preposition** I will not **spend** any time **before** getting on with the task [I **will do** it immediately]
 (I will not **wait before** getting on with it)
 with **no** preposition I will not **spend** time getting on with the task [I **will not** do it at all]
 (It is a **waste of time** to do it)
waste to use carelessly or to no purpose
 with a **preposition** I will not **waste** any time **in** getting on with the task [I **will do** it immediately]
 (I will not **wait before** getting on with it)
 with **no** preposition I will not **waste** time getting on with the task [I **will not** do it at all]
 (It is a **waste of time** to do it)

Sperm/spermatic morphology

sperm morphology the morphology of **spermatozoa**

Sperm/spermatozoal/spermatozoan

sperm as a **noun adjunct** [relating to spermatozoa]
sperm concentration [the **concentration of spermatozoa**]
sperm development [the **development of spermatozoa**]
sperm maturation [the **maturation of spermatozoa**]
sperm morphology [the **morphology of spermatozoa**]

	sperm motility	[the motility of spermatozoa]
	sperm vitality	[the vitality of spermatozoa]
	in hyphenated compound words	
	sperm-egg binding	[the binding of spermatozoa to eggs]
	sperm-zona recognition	[the recognition by spermatozoa of the zona pellucida]
<i>spermatozoal</i>	confusion with the adjectival/genitive ending al	[not Acta Nomina Veterinaria terminology]
<i>spermatozoan</i>	confusion with the adjectival/genitive ending an	[not Acta Nomina Veterinaria terminology]

See: [Back-formation](#)

Sperm/sperms

<i>sperm</i>	layman terminology, colloquial speech for the male gamete scientific terminology as a noun adjunct	replace by spermatozoon sperm maturation
<i>sperms</i>	layman terminology, colloquial speech for several male gametes	replace by spermatozoa

ALERT Check that **sperm** or **sperms** **is not** used as a **noun**

The **sperm** in the upper left is labelled with ConA
STYLE *Word usage:* **layman** terminology
CHANGE by **using the full name** of the singular noun
 The **spermatozoon** in the upper left is labelled with ConA

The **sperms** were examined in a microscope
STYLE *Word usage:* **layman** terminology
CORRECT by **using the full name** of the plural noun
 The **spermatozoa** were examined in a microscope

Sperm cell/s

Tautology: as the noun adjunct **sperm** means relating to **spermatozoa**, and **spermatozoa** are **cells**, **cell** is **superfluous**: use **spermatozoon/spermatozoa**

Sperm concentration/count

<i>sperm concentration</i>	the number of spermatozoa per unit volume	His sperm concentration was 20 million per ml semen After swim-up the concentration should be 5 million per ml medium
<i>sperm count</i>	the total number of spermatozoa per total volume	His sperm count was 60 million [per ejaculate] The total count after swim-up was 10 million [per 2 ml supernatant]

Sperm concentration/density

<i>sperm concentration</i>	concentration is number per unit volume for spermatozoa in semen expressed in 10⁶/ml semen	
<i>sperm density</i>	density is weight per unit volume for spermatozoa separated via continuous density gradient centrifugation determined from the density (g/ml) of gradient medium at the site of the cells at equilibrium does not mean concentration of spermatozoa [WHO terminology]	

See: [Multipliers/units](#)

Sperm density

See: [Semen/sperm density](#), [Sperm concentration/density](#)

Sperm volume

See: [Semen/sperm volume](#)

Spermatic

related to	blood vessels supplying the testis and epididymis the male genital tract semen	spermatic cord spermatic duct system spermatic fluid	spermatic artery	spermatic vein
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See: [Sperm/spermatic morphology](#)

Spermato-/spermatocyto-/spermatido-/spermio-genesis

<i>spermatogenesis</i>	the entire process of the formation of spermatozoa from spermatogonia	
<i>spermatocytogenesis</i>	the production of spermatocytes from spermatogonia	(<i>via</i> mitosis, meiosis I)
<i>spermatidogenesis</i>	the production of spermatids from spermatocytes	(<i>via</i> meiosis II)
<i>spermio-genesis</i>	the production of spermatozoa from spermatids	(<i>via</i> differentiation)

See: [Gametogenesis](#), [Mitosis/meiosis](#)

Spermatogenic/spermatogenetic

spermatogenic related to the process of spermatogenesis

See: [Back-formation](#)

Spermatogenesis/spermatogenic

<i>spermatogenesis</i>	noun	the process of sperm production from germ cells in the testis	The control testes displayed full spermatogenesis
<i>spermatogenic</i>	adjective	related to spermatogenesis	The treated testes displayed spermatogenic damage

Spermatozoa/spermatozoon

spermatozoa the plural noun, several cells [Acta Nomina Veterinaria terminology] **Spermatozoa** were prepared by swim up
spermatozoon the singular noun, one cell [Acta Nomina Veterinaria terminology] A **spermatozoon** was drawn into the ICSI pipette

See: [Sperm/spermatozoal/spermatozoan](#), [Sperm/sperms](#)

ALERT Check that **spermatozoa** *is not* used as an **adjective**

After centrifugation the **spermatozoa** suspensions were added to cryopreservative

ERROR *Syntax*: **spermatozoa** is a **noun** used here as an **adjunct**

CORRECT by

replacing **spermatozoa** by **sperm**

After centrifugation the **sperm** suspensions were added to cryopreservative

using a **partitive construction**

After centrifugation the **suspensions of spermatozoa** were added to cryopreservative

Spermiation/spermiogenesis

spermiation the **release** of **elongated spermatids** into the seminiferous tubule lumen as free **testicular spermatozoa**

spermiogenesis the production of **spermatozoa** from **spermatids** *via* differentiation

See: [Gametogenesis](#), [Spermato-/spermatocyto-/spermatido-/spermio-genesis](#)

Spun down

Style: **layman** terminology, colloquial speech, replace by **centrifuged**

Square in shape

Pleonasm: as a **square** is a shape, **shape** is **superfluous**: use **square**

Square metre/metres

See: [Metre square/metre squared/metres square/square metre/square metres](#)

Squared

See: [Cubed/squared](#)

Square-shaped

Pleonasm: as a **square** is a shape, **shape** is **superfluous**: use **square**

Stadium/stage

stage a point, period or step in a process or development

Stadium confusion with **German**

Staff is/are

is when the **staff itself** is the subject

The scientific **staff is** underpaid compared with other groups

are when what **staff consists of** (a **plural** group) is the subject

No staff were available for comment

See: [Collective nouns](#)

Stained negatively

Oxymoron: things are either stained (positively) or not, use **not stained**

Staining

non-finite forms of the verb to stain

a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Gerunds/participles](#), [Position of modifiers](#)

ALERT Check that **staining** has a **relevant noun** to qualify

After **staining**, the sections were mounted in glycerol and examined in a confocal microscope

ERROR *Semantics*: **staining** is a participle (verbal adjective) and **sections** is the nearest noun it can complement

so this implies that the **sections** did the staining

CORRECT [if the staining was done by a **technician**] by

replacing **staining** by **being stained**

After **being stained** adequately, the sections were mounted in glycerol and examined in a confocal microscope

rewriting **the sentence** by replacing **staining** by **had been stained**

After **the sections had been stained**, they were mounted in glycerol and examined in a confocal microscope

ALERT Check that **stained is not** used with words **meaning staining**

The slides were **stained** by PAS **staining**

ERROR *Tautology*: as **staining** causes things to be **stained**, one word is **superfluous**

CORRECT by using **one or the other**, not both, by

omitting **staining**

The slides were **stained** by PAS

replacing **stained** by **processed**

The slides were **processed** by PAS **staining**

Staining of slides was performed

Style: verbosity, can be shortened: replace by **the slides were stained**

Stamina (Latin)

the ability to sustain prolonged physical or mental effort

mass noun

Their secret is **stamina** rather than speed

Stand

to rise

See: [Light/phrasal verbs](#)

Standard deviation

See: [SD/SE/SEM](#), [Statistical variance](#)

Standard error

See: [SD/SE/SEM](#), [Statistical variance](#)

Standing

non-finite forms of the verb to stand

a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Gerunds/participles](#), [Position of modifiers](#)

ALERT Check that **standing** has a **relevant noun** to qualify

After **standing** in the refrigerator overnight, **we** filtered off the acid

ERROR *Semantics:* **standing** is a participle (verbal adjective) and **we** is the nearest noun it can complement
so this implies that **we** stood in the refrigerator

CORRECT [if the **acid** was stood in the refrigerator] by

replacing the active by the **passive voice**

After **standing** in the refrigerator overnight, the **acid was filtered**

Standpoint

See: [Perspective/point of view/standpoint/viewpoint](#)

Start

followed by a **gerund** meaning for the first time

She **started teaching** at the age of twenty

The patient **started smoking** when he was 16

an **infinitive** meaning on one occasion

She **started to teach** at nine o'clock [at that time]

He **started to smoke** when he came home [upon reaching home]

State

See: [Describe/report/state](#)

Stationary/stationery

stationary adjective remaining in the same place

Keep the microscope stage **stationary** when adjusting the condenser

stationery noun collective noun for writing materials

The **stationery** is on my desk

Statistics

computational (inferential) **infer** from these values whether the samples could be derived from
the same population (not statistically different)

a different population (statistically significantly different)

descriptive **describe** the population of data obtained

See: [Central limit theory/tendency](#), [Computational statistics](#), [Descriptive statistics](#)

Statistic/statistics

statistics is a **singular** noun

the final **s does not** indicate a plural

is not the singular of statistics

ALERT Check that **statistic** is not used

70% abnormal spermatozoa is a high **statistic**

ERROR *Syntax:* **statistic is not** the **singular** of statistics (which itself is singular)

CORRECT by **replacing statistic** by **value**

70% abnormal spermatozoa is a high **value**

Statistics is/are

are **statistics** is a **singular** noun treated as a **plural**

The **statistics were** checked by my Professor

Non-parametric **statistics were** applied

Status

the relative social, professional standing of someone or something

As head of department he enjoyed a certain **status** in the community

the position of affairs at a particular time

Please bring me up to date on the **status** of the manuscript

NOTE *Overused word:* often used unnecessarily, replace by **what sort of status** is meant [or omit]
 use on its own the **noun** in the hyphenated **adjective** favoured customer **not** favoured-customer **status**
 high ranking **not** high-ranking **status**

Status quo (Latin)

the existing state of affairs The clinicians were against the proposed changes as they had a vested interest in maintaining the **status quo**

ALERT Check that **status quo** is used correctly

Can there be a **status quo** on sperm counts?

ERROR *Oxymoron:* **status quo** means the current state of affairs so there can be no question of there being one

CORRECT by **rewriting the sentence** and **being more specific**

What is the **status** of the falling sperm count controversy?

Stereocilia

See: [Cilia/flagella/microvilli](#)

Sterilisation/sterility

sterilisation the process of sterilising, making sterile
 used for animals and man Vasectomy is a surgical method for male **sterilisation**
 insentient objects HIV was eliminated by dry heat **sterilisation** for at least two h at 170°C

sterility the quality or state of being sterile
 used for animals and man The anti-tumour radio- and chemo-therapy had the side-effect of **sterility**
 insentient objects The bench was swabbed with disinfectant every day to ensure **sterility**

See: [Cleaning/cleansing/disinfecting/sterilising](#), [Pasteurisation/UHT treatment](#)

Still

See: [Just now/still](#)

Stop

followed by a **gerund** meaning for ever My doctor told me to **stop drinking** red wine [never to drink red wine again]
 Her doctor told her to **stop smoking** cigars [never to smoke cigars again]
 an **infinitive** meaning on one occasion While talking I was asked **to stop to drink** red wine [stop talking and start drinking]
 While phoning I was told **to stop to smoke** a cigar [stop phoning and start smoking]

See: [Prevent/stop](#), [Quit/stop](#)

Straight forward/straightforward

straight forward adverbial phrase in a straight line, straight ahead Turn left at the main gate and go **straight forward**
straightforward adjective uncomplicated, easy to do or understand This project seems **straightforward** enough to be done here

Strata/stratum (Latin)

strata plural noun layers
stratum singular noun layer

Strategy/stratagem/tactics

strategy a plan of action, designed to achieve a long-term or overall aim somewhat abstract
stratagem a plan or scheme, especially one used to outwit or trick an opponent a cleverly-designed scheme for achieving an end
tactics devices or procedures for carrying out a strategy given in detail

Stress/stress on

stress to give emphasis to
 in grammar the emphasis given during pronunciation of words and phrases for effect or meaning
stress on as **stress** means **to give emphasis to**, it **needs no** additional **preposition (on)** after it

Stressing/stressing on

stressing giving a particular emphasis or importance to something
stressing on as **stressing** means giving a **emphasis to** something, it **needs no** additional **preposition (on)** after it

ALERT Check that **stress is not** followed by a **preposition**

His approach was **stressing less on** inter-departmental collaboration than economic advantage

ERROR *Syntax:* as **stressing** means **giving emphasis to**, it **needs no** additional **preposition (on)** after it

CORRECT by

omitting on

His approach was **stressing less** inter-departmental collaboration than economic advantage

replacing stressing less by to put less stress

His approach was **to put less stress on** inter-departmental collaboration than **on** economic advantage

Strict/strictly

strict adjective exact in correspondence or adherence to something Apply a **strict** application of morphological criteria
strictly adverb with no exceptions, completely, absolutely The morphological criteria were applied **strictly**
 no more than, purely, solely My visit was **strictly** business

ALERT Check that **strict** refers to a **relevant** noun

Sperm morphology was assessed by **strict** criteria recommended by WHO (2010)

ERROR *Semantics*: criteria cannot be strict but their application can

CORRECT by **replacing strict** by **the strict application of**

Sperm morphology was assessed by **the strict application of** criteria recommended by WHO (2010)

Striking

non-finite forms of the verb to strike

a **participle** (verbal adjective) and **gerund** (verbal noun)

as participle clear, marked, noteworthy, obvious

attracting attention by reason of being unusual or prominent The epididymal initial segment has a **striking** pink colouration

Her appearance was **striking**, owing to her choice of clothes

NOTE *Overused word*: often used unnecessarily **[omit]**

See: [Gerunds/participles](#)

ALERT Check whether **striking** is necessary

Fig. 1 reveals a **striking** dependence of sperm velocity on stimulant dose

ERROR *Syntax*: dose-dependence may be **obvious** but unlikely to be unusual

CORRECT [if it is **obvious**] by

omitting striking

Fig. 1 reveals a dependence of sperm velocity on stimulant dose

replacing striking by **marked**

Fig. 1 reveals a **marked** dependence of sperm velocity on stimulant dose

Stringent

See: [Robust/stringent](#)

Stripped

past participle of the verb to strip

See: [Position of modifiers](#)

ALERT Check that **stripped** has a **relevant** noun to qualify

Stripped of her more exuberant adjectives, **she** has a point

ERROR *Semantics*: **stripped** is a participle (verbal adjective) and **she** is the nearest noun it can complement

so this implies that **she** was stripped

CORRECT [if her **text** was to be stripped] by

replacing her by **their** and **she** by **her comments**

Stripped of **their** more exuberant adjectives, **her comments** have a point

Stroke

See: [Slash/Solidus](#)

Student/student's/students'

student	student loans	the concept of loaning money to students
	a student union	a union consisting of and catering for students in general
	a student welfare officer	an officer looking after the welfare of students
student's	a student's loans	the money lent to one student
	a student's union	a union belonging to or run by one student
	a student's welfare officer	an officer looking after the welfare of one student
students'	students' loans	the money lent to students in general
	a students' union	a union consisting of and catering for students in general
	a students' welfare officer	an officer looking after the welfare of students

See: [Farmer/farmer's/farmers'/Farmer's/Farmers' market](#), [Genitive \(possessive\) case](#), [Nouns as adjectives](#)

Study

the devotion of time and attention to gaining knowledge of an academic subject

NOTE *Vague word*: often used unnecessarily, replace by **what was studied** **[or omit]**

See: [Done](#), [Using](#)

ALERT Check whether **study** should be **replaced** by a **more relevant** word

Protein immuno-histochemical **studies** were done by using fluorescence microscopy

STYLE *Word usage*: **studies**, **done** and **using** are all overused used words

CHANGE by **emphasising** what the study **involved**

Proteins were **located** immuno-histochemically by fluorescence microscopy

Studies some years ago by... showed that

Style: verbosity, can be shortened: replace by ... **showed that**

Style of writing

See: [Grammar/style](#)

Subfertility

See: [In-/sub-fertility](#)

Subject

See: [Sentences](#)

Subject-based control groups

See: [Population-/subject-based control groups](#)

Subjected to examination by

Style: verbosity, can be shortened: replace by **examined by**

Subjective

See: [Objective/subjective](#)

Subjective (subject) case

See: [Nominative \(subject\) case](#)

Sublimation

See: [Condensation/evaporation/sublimation](#)

Subnormal

See: [Abnormal/normal/subnormal/supra-normal](#)

Subsequent/subsequently

subsequent adjective

The **subsequent** appearance of testosterone secretion induced epididymal growth

subsequently adverb

His competence ensured that he **subsequently** became the organiser of the next meeting

The post-meiotic peak of cell phosphorylation occurs first; chromatin compaction occurs **subsequently**

See: [After/subsequent/subsequent to](#), [Consequent/subsequent](#), [Prior/subsequent](#)

Subsequent to

See: [After/subsequent/subsequent to](#), [Prepositions](#)

Substantial/substantive

substantial adjective

of considerable importance, size or worth

[**broad**er in meaning than substantive]

There is **substantial** evidence for this theory

substantive adjective

based on reality, real not apparent or imaginary

[**deeper** in meaning than substantial]

You need **substantive** evidence to support your hypothesis

in grammar

a word or words acting as a noun

substantive possessive pronoun

This is **mine**

substantive (noun) phrase

as subject of a **verb**

Even the most complicated grammatical rules may sink in slowly

as object of a **verb**

The undergraduate student **gave a long boring seminar**

substantive (noun) clause

in compound and complex sentences

That this paper was accepted by Nature indicates its quality

See: [Noun clauses](#), [Noun phrases](#)

Substitute by/for/with

for when one item is used **for (instead of)** another in a process

See: [Replace/substitute](#)

Subtraction

See: [Mathematical comparators/operators](#)

Success/successful/successfulness/successfully

success noun

the accomplishment of an aim or purpose

They had some **success** in reducing sperm speed

successful adjective

having achieved success, having accomplished an aim or purpose

The differentiation of stem to muscle cells was **successful**

successfulness noun

the state of being successful

They need to prove the **successfulness** of the project

successfully adverb

with the desired aim or result, with success

They **successfully** published their paper in Nature

NOTE *Overused word*: often used unnecessarily [**omit**]

ALERT Check that **successfully** is necessary

A total of 400 protein spots was **successfully** identified

ERROR *Oxymoron*: this implies that some proteins were **identified unsuccessfully** (i.e. not identified)

CORRECT [if more than 400 proteins had been **studied** but not all identified] by

omitting successfully

A total of 400 protein spots was identified

rewriting **the sentence** by replacing **successfully** by **successful** to describe a **noun**
Identification of the protein spots was **successful** in 400 cases

Only in very few experiments were the oocytes **successfully** fertilised

ERROR *Oxymoron*: this implies that some oocytes could be **fertilised unsuccessfully** (*i.e.* not fertilised)

CORRECT by

omitting **successfully**

Only in very few experiments were the oocytes fertilised

rewriting **the sentence** by replacing **successfully** by **successful** to describe a **noun**
Fertilisation of the oocytes was **successful** only in very few experiments

On the other hand the seminal fluid viscosity was **successfully** correlated with seminal leukocyte concentration

ERROR *Semantics*: this implies that the **correlation was desired** [perhaps to satisfy a hypothesis]

CORRECT by

being **specific** by replacing **successfully** by **significantly** or **positively**

On the other hand the seminal fluid viscosity was **significantly/positively** correlated with seminal leukocyte concentration

Such

adjective of the nature indicated

We are looking for graduates with **such** qualifications

adverb to the stated degree, in the stated manner

It is **such** an easy essay that more people should use it

pronoun in itself

As **such** the review was not very good

See: [So/such](#)

Such... as/who

such... as **such** is used to refer to something about to be introduced after **as** He was wearing **such** a lab. coat **as** doctors wear

ALERT Check that **such** is used with **as** when it is used as a subject

Recognition will be given to **such** of the students **who** complete the exam in less than an hour

ERROR *Syntax*: when used as an adjective **such** requires **as**

CORRECT by

replacing **who** by **as**

Recognition will be given to **such** of the students **as** complete the exam in less than an hour

omitting **of the** and replacing **who** by **as**

Recognition will be given to **such** students **as** complete the exam in less than an hour

replacing **such of the** by **those**

Recognition will be given to **those** students **who** complete the exam in less than an hour

Such as/that

such as relative pronoun phrase

for example, including

may be together

She added growth factors, **such as** VEGF and TGF, to the cultures

of a kind that, like one that

may be separated

She added **such** growth factors **as** VEGF and TGF to the cultures

may be together

He was wearing a lab. coat **such as** doctors wear

may be separated

He was wearing **such** a lab. coat **as** doctors wear

such that to the extent that

Its impact is **such that** 'performed according to WHO guidelines' is now ubiquitous

See: [As such/such as, etc.](#), [For example/such as](#), [Like/such as](#), [Such... as/who](#)

Such as for example, e.g.

Tautology: as **such as** provides an **example**, one phrase is **superfluous**: use **such as/for example/e.g.**

Sucking/suckling

sucking gerund (verbal noun)
 present participle

of the **intransitive** verb **to suck**
 of the **transitive** verb **to suck**
 describing a following **noun**

Sucking comes naturally to unweaned animals
 The piglets are **sucking** at the udder
Sucking piglets are often uncoordinated
 We study the **sucking reflex**

suckling gerund (verbal noun)
 present participle

of the **intransitive** verb **to suckle**
 of the **transitive** verb **to suckle**
 of the **intransitive** verb **to suckle**
 of the **transitive** verb **to suckle**
 describing a following **noun**

Suckling comes naturally to newborn animals
Suckling comes naturally to a lactating mother
 The piglets in the corner are **suckling**
 The sow in the corner is **suckling** her young
 That **suckling sow** has six piglets
 The **suckling piglets** are content
 We study the **suckling reflex**

noun

an unweaned young (sucking) animal of any species
 preceded by an **adjective**
 a **noun adjunct**

This department studies the physiology of **porcine sucklings**
 Roast **pig suckling** is delicious

See: [Latin adjectives](#)

Suffice it to say/suffice to say

suffice it to say may it suffice us to say, it is sufficient for us to say

subjunctive mood [suffice] + dummy subject [it] + inverted word order [verb, subject]

indicates that you are **saying enough** to make your point, while **withholding more** for reasons of discretion

Suffice it to say that we were not even asked to an interview [we won't go into more details of why not]

Sufficient

See: [Enough/sufficient](#)

Suggest that

used when there is **sufficient evidence** for a conclusion to be drawn
expressed by the following verb in the **declarative** mood It has been **suggested** that the process **is** androgen-dependent

See: [Certainty/uncertainty](#), [Indicate/suggest](#)

ALERT Check that **suggest is not** used with words **reflecting uncertainty**

These results **suggest that** ROS production **is possibly** related to capacitation

ERROR *Oxymoron*: **suggest that** introduces concepts **considered certain**, but **possibly** indicates **uncertainty**

CORRECT [if there is **sufficient evidence**] by

using the **declarative** mood

These results **suggest that** ROS production **is** related to capacitation

CORRECT [to emphasise **uncertainty**] by

omitting **These results suggest that**

ROS production **is possibly** related to capacitation

The results **suggest that** the enzyme **could be** efficient in recycling the substrate

ERROR *Oxymoron*: **suggest that** introduces concepts **considered certain**, but **could be** indicates **uncertainty**

CORRECT [if there is **sufficient evidence**] by

using the **declarative** mood

The results **suggest that** the enzyme **is** efficient in recycling the substrate

CORRECT [if there is a **condition**] by

providing the **condition**

The results **suggest that** the enzyme **could be** efficient in recycling the substrate **if glucose is present throughout the incubation**

CORRECT [to emphasise **uncertainty**] by

omitting **The results suggest that**

The enzyme **could be** efficient in recycling the substrate

Suggesting

non-finite forms of the verb to suggest

a **participle** (verbal adjective) and **gerund** (verbal noun)

as participle causing one to think that something is the case or exists

See: [Gerunds/participles](#), [Indicate/suggest](#)

ALERT Check that **suggesting** follows sufficient evidence for a suggestion

Basigin is also present in the sperm head, **suggesting** that it is involved in the sperm-egg interaction

ERROR *Semantics*: the mere presence of basigin is not suggestive of anything

CORRECT [if the protein is **static**] by

replacing **suggesting that it is** by **where it may be**

Basigin is also present in the sperm head, **where it may be** involved in the sperm-egg interaction

CORRECT [if the protein **migrates**] by

rewriting **the sentence**

The location of Basigin in the sperm head changes during capacitation, **suggesting** that it is involved in the sperm-egg interaction

Sui generis (Latin)

one of a kind, unique

Suitable/suited

suitable followed by the preposition **for** These blunt instruments are not **suitable for** this operation

suited followed by the preposition **to** These fine forceps are ideally **suited to** this cannulation

Summarisation/summary

summary a brief statement or account of the main points of something

See: [Back-formation](#)

Summarising

See: [In summary/summarising](#)

Sup- (Latin)

See: [Prefix list](#)

Supra

See: [Vide/vide infra/supra](#)

Superfluous/unnecessary

superfluous unnecessary, especially because more than enough

unnecessary **not** needed

more than is needed, superfluous

In a review the author should avoid presenting **superfluous** details
Others think that adding lactate and pyruvate is **unnecessary**
Good planning is essential to avoid **unnecessary** use of chemicals

Superior/superior to

<i>superior</i>	higher in rank, status or quality of high standard or quality	This is the superior officer These are superior CASA machines
<i>superior to</i>	above yielding to or being influenced by	What more must he do to prove himself superior to her?

Superlative

See: [Comparative/superlative](#)

Supersede/supersede

<i>supersede</i>	to take the place of, to supplant	The older models of microscope have now been superseded
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Supine

See: [Prone/prostrate/recumbent/repose/supine](#)

Supplement

See: [Add/supplement](#)

Supplementary

additional, extra, more

Support

See: [Confirm/corroborate/support](#), [Enable/support](#)

Support... that

used when there is **sufficient evidence** for a conclusion to be drawn
expressed by the following verb in the **declarative** mood The data **support** the concept **that** sperm motility **is** related to osmotic swelling

See: [Certainty/uncertainty](#), [Moods of verbs](#)

ALERT Check that the verb following **support... that** is in the **declarative** mood

The data **support** the finding **that** capacitated spermatozoa **could exhibit** low levels of tyrosine phosphorylation
ERROR *Syntax: supports... that* introduces concepts **considered certain** but the conditional **could** implies a **condition**

CORRECT [if there is **sufficient evidence**] by
using the **declarative** mood

The data **support** the finding **that** capacitated spermatozoa **exhibit** low levels of tyrosine phosphorylation
CORRECT [if there is a **condition**] by

providing the **condition**

The data **support** the finding **that** capacitated spermatozoa **could exhibit** low levels of tyrosine phosphorylation **if zinc levels are kept low**

CORRECT [to emphasise **uncertainty**] by

omitting *The data support the finding that* and replacing **could** by **may**

Capacitated spermatozoa **may exhibit** low levels of tyrosine phosphorylation

The data **support** the idea **that** these different biological roles **would reside** in different protein domains

ERROR *Syntax: supports... that* introduces concepts **considered certain** but the conditional **would** implies a **condition**

CORRECT [if there is **sufficient evidence**] by
using the **declarative** mood

The data **support** the idea **that** these different biological roles **reside** in different protein domains

CORRECT [if there is a **condition**] by

providing the **condition**

The data **support** the idea **that** these different biological roles **would reside** in different protein domains **if the proteins in situ have the access to the substrates they do in vitro**

CORRECT [to emphasise **uncertainty**] by

omitting *The data support the idea that* and replacing **would** by **may**

These different biological roles **may reside** in different protein domains

Suppose/think

<i>suppose</i>	generally assume something to be the case, but without proof to be required to do something, should, ought to	As you were the last to operate, I suppose these are your instruments From his itinerary, he was supposed to be here by 8.00
<i>think</i>	to have a particular belief, idea or opinion to use one's mind actively to form connected ideas	These surgical instruments by the sink; I think they are yours At the time he was thinking about the coiling of the epididymis

See: [Assume/presume](#), [Believe](#), [Certainty/uncertainty](#), [Must/ought/should](#)

ALERT Check that **suppose** is the **intended word**

The acrosome reaction is **supposed** to be stimulated by A23187 but it did not occur in our experiments

ERROR *Oxymoron: suppose* implies **no proof** but **stimulation by A23187** suggests there is **evidence**

CORRECT [if a **presumption** of stimulation by A23187 was the basis for the experiments] by

using more **specific verbs** meaning **considered on the basis of some evidence**

The acrosome reaction is **considered/presumed/thought** to be stimulated by A23187 but it did not occur in our experiments

Supranational

See: [Global/inter-/multi-/supra-/trans-national](#)

*Supranormal*See: [Abnormal/normal/subnormal/supranormal](#)*Sure*See: [For sure/sure](#)*Surely*See: [Certainly/surely](#), [For sure/sure](#)*Surmise*

to suppose something is true (without the evidence to confirm it)

used when there is **insufficient evidence** for a conclusion to be drawnexpressed by the following main verb in the **declarative** mood From the observations we **surmise that** cells **are** lost by apoptosisSee: [Certainty/uncertainty](#), [Suppose/think](#)*Surprise*See: [Amaze/surprise](#)*Surprising/unanticipated/unexpected**surprising* literal causing someone to feel astonishment or shock, meeting suddenly without warning

figurative unanticipated, unexpected

unanticipated not anticipated, not expected, not predicted, unexpected (surprising used figuratively)*unexpected* contrary to expectation or prediction, unanticipated (surprising used figuratively)*Surprisingly*

adverb used to describe a whole clause

placed at the **beginning** of the sentence

astonishingly, shockingly

Surprisingly, the Director entered the hall through the back door)[**It was surprising to us** that the Director entered the hall through the back door][**It surprised us** that the Director entered the hall through the back door]See: [Amaze/surprise](#), [Surprising/unanticipated/unexpected](#)**ALERT** Check that **surprisingly** is the **intended word****Surprisingly**, the cells were hyperactivated as soon as they were recovered**ERROR** *Semantics: an overstatement*, since results should neither astonish nor shock**CORRECT** byreplacing **surprisingly** by **unexpectedly****Unexpectedly**, the cells were hyperactivated as soon as they were recoveredusing **unanticipated** in a **noun clause****It was unanticipated that** the cells were hyperactivated as soon as they were recovered*Suspension*See: [Emulsion/solution/suspension](#)*Sustainment/sustenance**sustenance* food and drink regarded as a source of strength, nourishmentSee: [Back-formation](#), [Nutrient/nutritment](#)*Syllable structure*

onset	the consonant-like phoneme at the beginning of a syllable	string	play
nucleus	the vowel-like phoneme at the heart of a syllable	train	tap
coda	the consonant-like phoneme ending of a closed syllable	task	pomp

Symmetric/symmetrical

showing symmetry, made up of similar parts facing each other

The crystals are completely **symmetric**The bilaterally **symmetrical** animals lived only in sea water*Symposion/symposium**Symposion* confusion with **German***symposium* a conference or meeting to discuss a particular subject.*Syncope*[pronounced **sincopée**]

medical: pathology, a technical word for a faint

Syncope has been reported in a small percentage of patients taking the druggrammar: the **omission** from the middle of a word of one or more**letters** boatswain bo's'n bos'n bosun

forecastle fo'c'sle

sounds Chomlmondely Chumli

Featherstonehaugh Fanshaw

Marjoribanks Marchbanks

Wriothesley Roxley

See: [Apostrophes](#)

Synergic/synergistic

synergistic relating to the interaction of two or more agents to produce a combined effect greater than the sum of their separate effects

Synonyms

See: [Anto-/syno-nyms](#)

Syntax

See: [Grammar/style](#)

Synthetic

See: [Analytic/synthetic](#)

System

a set of things working together as parts of a mechanism or interconnecting network, a complex whole
a set of principles according to which something is done, an organized scheme or method

The male reproductive **system**
The public transport **system**

NOTE *Vague word:* often used unnecessarily, replace by that **the system is [or omit]**
CASA [**not** a CASA **system**] scientific enquiry [**not** the scientific enquiry **system**]

Système international (SI) units

See: [International system of units](#)

Systematic/systemic

systematic methodical, done in accordance with a fixed system

A **systematic** review of the literature

systemic of or relating to a system, not a particular part

The disease is localised, not **systemic**

the circulatory system part transporting oxygen to and carbon dioxide Aortograms display and define the **systemic** blood supply

See: [Random/systematic](#)

ALERT Check that **systemic** is meant

CFTR mutations in men with CBAVD: a **systemic** review and meta-analysis.

ERROR *Semantics:* reviews are neither local nor vascular

CORRECT by replacing **systemic** by **systematic**

CFTR mutations in men with CBAVD: a **systematic** review and meta-analysis.

Table

See: [Figures/tables](#)

Tacet/tacit

tacet indicating that a voice or instrument be silent

While the violins were playing the oboe was **tacet**

tacit understood or implied without being stated

His silence was taken to be **tacit** approval

Tactics

See: [Strategy/stratagem/tactics](#)

Take

verb to lay hold of something with one's, to reach for and hold (formal)

He **took** the scalpel to make the incision

to accept or receive something (formal)

She **took** the bad news well

to cause to go with

He **took** her to the hospital

noun a particular version of, view on or approach to something (informal)

His **take** on the matter was negative

See: [Bring/take](#), [Colloquialism/dialect/jargon/slang/Standard English](#), [Light/phrasal verbs](#)

ALERT Check that **take** is not used informally

His **take** on the matter was that it should be returned for repair

STYLE *Word usage:* layman terminology

CHANGE by replacing **take** by **view**

His **view** of the matter was that it should be returned for repair

Taken together

refers to several count items considered **together**

ALERT Check that what **taken together** refers to is **provided**

Taken together this study confirms the importance of pyruvate in fertilisation

ERROR *Syntax:* ambiguous, it is unclear **what** is considered collectively

so **this could be interpreted as**

the results of **this study alone** are taken together

or

the results of **this study and those of others** are taken together

CORRECT [if the **former** is meant] by

omitting taken together

This study confirms the importance of pyruvate in fertilisation

inserting **the results from** for replacing **confirms** by **confirm**

Taken together, **the results from** this study **confirm** the importance of pyruvate in fertilisation

CORRECT [if the **latter** is meant] by

inserting **with other results**

Taken together **with other results**, this study confirms the importance of pyruvate in fertilisation

Taking

non-finite forms of the verb to take

a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Gerunds/participles](#), [Position of modifiers](#)

ALERT Check that **taking** complements the **intended noun**

Taking the broad view, the new **director** did more harm than good

ERROR **Semantics:** **taking** is a participle (verbal adjective) and **director** is the nearest noun it can complement

so this implies that the **director** took the broad view

CORRECT [if the **writer** of the article took the broad view] by

providing the **person** taking the broad view

Taking the broad view, **I feel that** the new director did more harm than good

Taking into consideration

Style: verbosity, can be shortened: replace by **considering**

See: [Considering](#), [Taking into consideration the fact that](#)

Taking into consideration the fact that

Style: verbosity, can be shortened: replace by **as/because/since**

Talking of

Style: **layman** terminology, colloquial speech, verbosity, **avoid**

Tantamount

See: [Paramount/tantamount](#)

Tare/zero

tare	to set a balance to read zero with a container on the weighing pan	the weight of the container is set to zero the weight of the added substance is recorded directly
zero	to set a balance to read zero with no container on the weighing pan	used to calibrate the machine to give true zero the weight of a container is recorded before and after addition of substance the weight of the substance is the difference of the two readings

Target/target to

target	noun	literally figuratively	a person, object or place selected as the aim of an attack an ambition, goal, objective, purpose
	verb	literally figuratively	to select as an object of attention or attack to aim for

Targeted/targeted

targeted **target** is a polysyllabic word with **no emphasis** on the **last syllable**
(the final consonant **is not doubled** when adding a suffix [unless it is L or R])

Targeting/targeting

targeting **target** is a polysyllabic word with **no emphasis** on the **last syllable**
(the final consonant **is not doubled** when adding a suffix [unless it is L or R])

Tautology

See: [Pleonasm/tautology](#)

Technic/technique

Technic confusion with **German**
technique a way of performing a particular task, especially the execution of a scientific procedure

See: [Procedure/process/technique](#)

Technologic/technological

technological adjective relating to or using technology We are currently experiencing the quickening pace of **technological** change

Teleology

the explanation of phenomena by the **purpose they serve**, rather than by postulated causes
the attribution that natural processes are **directed towards** a purpose
implies the attribution of **consciousness** to **non-sentient** beings
often unintentionally introduced by the expressions **in order to**, **to**

See: [Anthropogenic/anthropometric/anthropomorphic/anthropomorphism](#), [Grammar/style](#), [In order to/so as to/to](#)

ALERT Check that insentient objects **are not** credited with clairvoyant powers

Spermatozoa travel into the ampulla **to locate** the cumulus-oocyte complex

ERROR *Teleology*: this implies that **spermatozoa are aware** that they need to reach the oocyte so **deliberately swim** towards it

CORRECT by **explaining the process or mechanisms involved**

Spermatozoa travel into the ampulla **where they encounter** the cumulus-oocyte complex

To cope with the oxidative environment in the knockout cauda epididymidis, its epithelium up-regulates three peroxidases

ERROR *Teleology*: this implies that the **epididymal epithelium is aware** that it must reduce oxidation so **deliberately synthesises** antioxidant enzymes

CORRECT by **explaining the process or mechanisms involved**

The oxidative environment in the knockout cauda epididymidis **is countered by** epithelial upregulation of three peroxidases

GPX5 mRNA and protein are increased in Se-deficient males **to back up** failing Se-dependent enzyme activities

ERROR *Teleology*: this implies that **the epididymis is aware** of reduced activity so **deliberately increases** enzyme activity to counter it

CORRECT by **explaining the process or mechanisms involved**

GPX5 mRNA and protein are increased in Se-deficient males, where they **compensate for** the failing Se-dependent enzyme activities

The raised LH levels can increase Leydig cell proliferation **in an attempt to** normalise testosterone levels

ERROR *Teleology*: this implies that **LH levels are aware** of falling testosterone levels so **deliberately increase** Leydig cell proliferation

CORRECT by **explaining the process or mechanisms involved**

The raised LH levels **stimulate** Leydig cell proliferation **that normalises** testosterone levels

Epididymal epithelial cells have evolved innate mechanisms **to fight** pathogens

ERROR *Teleology*: this implies that **epithelial cells are aware** that they need to fight pathogens so **deliberately evolved innate mechanisms**

CORRECT by **explaining the process or mechanisms involved**

Epididymal epithelial cells have evolved innate mechanisms **that fight** pathogens

Tell

to communicate information to someone in spoken or written words

[only people can tell things]

ALERT Check that **tell** refers to people

fMRI can **tell** the investigator the activity of certain brain regions

ERROR *Syntax*: **fMRI is insentient and cannot** tell anyone anything

CORRECT by **replacing tell by provide** and **inserting an object**

fMRI can **provide** the investigator **with information on** the activity of certain brain regions

Temporally/temporarily/temporary

temporally adverb with regard to time

The organ is affected by **temporally** regulated events

temporarily adverb for a limited period of time, not permanently

Spermatogenesis will be interrupted **temporarily**

temporary adjective lasting only for a limited period of time, not permanent

The spermatogenic arrest will only be **temporary**

Tendency

an inclination towards a not particularly obvious characteristic or type of behaviour

followed by a **full infinitive** She has a **tendency to be** very strict in her marking

NOTE *Overused word*: often used unnecessarily **[omit]**

ALERT Check that the use of **tendency** is necessary

There was a clear **tendency** for expression to decrease along the epididymis

ERROR *Oxymoron*: **clear** means **obvious** but **tendency** means **not particularly obvious**

CORRECT [if the decline is not clear] by

omitting clear

There was a **tendency** for expression to decrease along the epididymis

CORRECT [if the decline is clear] by

replacing tendency for expression to decrease by decrease in expression

There was a clear **decrease in** expression along the epididymis

Tenet

See: [Concept/idea/tenet](#)

Terato-spermia/-zoospermia

teratozoospermia [WHO terminology] relating to spermatozoa not semen

Teratozoo-spermia/-spermic

teratozoospermia noun the state of being **teratozoospermic**

with less than the WHO lower limit of normal sperm forms per ejaculate

[WHO terminology]

The control patients were chosen for their **teratozoospermia**

teratozoospermic adjective suffering from **teratozoospermia**
 having less than the WHO lower limit of normal sperm forms per ejaculate
 [WHO terminology] The treated men were **teratozoospermic**
[only men and animals, not semen, can be teratozoospermic]

Terminate

to cease, to end, to stop

Terminology

See: [Nomenclature/terminology](#)

Test

See: [Determine/measure/test](#)

Test subject

See: [Proband/proband/test subject](#)

Testicular/testis

testis	noun	the organ	The testis is the primary male sex organ	
	as noun	adjective	Testis weight is decreased after heating	[the weight of the testis ...]
testicular	adjective	of the testis	Testicular weight is decreased after heating	

See: [Blood-testicular/-testis barrier](#), [Tubular/tubule](#)

Testify

intransitive verb	to give evidence as a witness in a law court	He testified against his institute's director
	to serve as evidence of something existing, to verify	These results testify that the treatment is working

See: [Check/confirm/validate/verify](#)

ALERT Check that **testify is not** used as a passive

Over-expression of WIF1 has been **testified** to block Wnt/ β -catenin signalling

ERROR *Syntax:* **testify** is an intransitive verb, which has no passive

CORRECT by **replacing testified** by a **transitive verb**

Over-expression of WIF1 has been **proven** to block Wnt/ β -catenin signalling

Than

conjunction (formal)		
used with a comparative adjective		the pronoun following than is in the same case as the first term of the comparison
nominative case	for subjects	<i>I</i> am lighter than she [is] <i>They</i> are shorter than we [are] <i>He</i> is taller than I [am]
objective case	for objects	She employed someone taller than her They could find no one more experienced than him I have been encouraged by my supervisor, whom no one could be kinder than
joins parallel grammatical equivalents		
comparing nouns		CCNYL1 had a stronger interaction towards CDK16 than CCNY [CCNYL1 & CDK16 vs CCNYL1 & CCNY]
comparing clauses		CCNYL1 had a stronger interaction towards CDK16 than did CCNY [CCNYL1 & CDK16 vs CDK16 & CCNY]
preposition (informal)		
introducing a second compared element		He was much shorter than his son
apart from, except		He claims not to own anything other than this home

See: [As many as/than](#), [As much as](#), [Colloquialism/dialect/jargon/slang/Standard English](#), [Compared with/in comparison with/than](#), [Instead/instead of/rather than/rather... than](#), [Objective \(object\) case](#), [Than/versus](#)

ALERT Check that **than is not** used as a preposition

He is taller **than me**

ERROR *Syntax:* **than** is not a preposition, so is not followed by the **objective**

CORRECT by **using the conjunction** to join **two clauses** by

replacing the objective by the **nominative**

He is taller **than I** [am]

ALERT Check that there is **no ambiguity** after using **than**

He owed less to judgement **than luck**

ERROR *Semantics:* ambiguous, **it is unclear** what **than** refers to, the verb or the subject
so **this could be interpreted as**

he owed less **to judgement than** he owed **to luck**

or

he owed less to judgment **than luck** owed to judgement

CORRECT [if the **former** is meant] by

repeating the preposition

He owed less to judgement than **to** luck

Than/versus (Latin)

than as preposition introducing the second element in a comparison
versus preposition as opposed to, in contrast to
 against

He thought it better to publish in Lancet **than** in PNAS
 We discussed using epididymal **versus** ejaculated spermatozoa
 He weighed up the pros and cons of giving a talk **versus** a poster
 The debate next week will be the students **versus** the staff

See: [v./vs](#)

ALERT Check that **versus** is **not** used with words **implying comparison**

Comparisons were made between those receiving irradiation with chemotherapy **versus** chemotherapy alone
ERROR *Tautology*: as both **versus** and **comparisons** imply that items **are being compared**, one word is **superfluous**
CORRECT by using **one or the other**, not both, by
 replacing **versus** by **and those receiving**
Comparisons were made between **those** receiving irradiation with chemotherapy **and those receiving** chemotherapy alone
 rewriting **the sentence** by **omitting comparison**
 The study was of those receiving irradiation with chemotherapy **versus** chemotherapy alone

In this study we were **comparing** the SCA **versus** the Image J morphometric system
ERROR *Tautology*: as both **versus** and **comparing** imply that items **are being compared**, one word is **superfluous**
CORRECT by using **one or the other**, not both, by
 replacing **versus** by **with**
 In this study we were **comparing** the SCA **with** the Image J morphometric system
 rewriting **the sentence** by **omitting comparison**
 The study was of using the SCA **versus the** Image J morphometric system

ALERT Check that the meaning of **versus** is clear

The formation of BC projections is differentially regulated in the rat **versus** the mouse epididymis
ERROR *Semantics*: ambiguous, **it is unclear** in which way the mouse epididymis contrasts with that of the rat
 so **this could be interpreted as**
 the mouse epididymis **is not regulated** at all
 or
 the mouse epididymis **is regulated but not** differentially
CORRECT [if the **former** is meant] by
 replacing **versus** by **but not in**
 The formation of BC projections is differentially regulated in the rat **but not** the mouse epididymis
CORRECT [if the **latter** is meant] by
 rewriting **the sentence** by **being more specific**
 The formation of BC projections is regulated in the rat and mouse epididymis **but only differentially** in the rat

Than he/him

See: [Than](#)

Than her/she

See: [Than](#)

Than I/me

See: [Than](#)

Than they/us/we

See: [Than](#)

Than was the case when

Style: verbosity, can be shortened: replace by **than occurred when**

Thank

to express gratitude to someone for doing something

See: [Acknowledge/thank](#)

Thankful

See: [Grateful/thankful/thankfully](#)

Thankfully

See: [Grateful/thankful/thankfully](#)

That

adverb so, to such a degree defining a **verb**
 conjunction, subordinating only governs a **whole clause**

[that] is commonly **omitted** when **no confusion** is caused

I wouldn't **go that** far
That the object of the guidelines is to prevent accidents is undeniable
 I believe **that you are correct**
 I **believe [that]** you are correct
 I **say [that]** he is entitled to it
 I **suppose [that]** he could be right

		I <i>think</i> [that] this is the correct approach
that should not be omitted when it could cause confusion		
demonstrative determiner, specific	defining a noun	That problem is too hard
demonstrative pronoun, specific	subject of a verb	Who is correct? That is the question
relative pronoun	introducing a defining clause	The argument that he gave is inconsistent with the facts

See: [And that](#), [As if/like](#), [But that](#), [But that/that](#), [That/the fact that](#), [That/these/this/those](#), [That clauses](#)

ALERT Check that **that** does not appear **too few** times

	She concluded the email was a hoax	
ERROR	<i>Semantics</i> : discourteous, the reader expects conclude to mean to end [She concluded the email...] and then realises otherwise [conclude means to draw a conclusion]	
CORRECT	[to prevent confusion] by inserting that as a conjunction She concluded that the email was a hoax	
	She concluded the manuscript was not ready	
ERROR	<i>Semantics</i> : discourteous, the reader expects what follows the first verb to be its object [She finished the manuscript ...] and then realises otherwise [what follows the first verb is a noun clause]	
CORRECT	[to prevent confusion] by inserting that She concluded that the manuscript was not ready	
	There were those who believed Cooper had failed to account for osmolality changes	
ERROR	<i>Semantics</i> : discourteous, the reader expects what follows the verb to be the object [they believed Cooper ...] and then realises otherwise [Cooper is the subject of the following verb]	
CORRECT	[to prevent confusion] by inserting that as a relative pronoun There were those who believed that Cooper had failed to account for osmolality changes	
	He then realised he had left the microscope lamp on and that he had locked his keys in the lab.	
ERROR	<i>Syntax</i> : and joins two grammatical equivalents but here there is only one that clause	
CORRECT	by inserting that in the first clause He then realised that he had left the microscope lamp on and that he had locked his keys in the lab.	
	omitting that and the third he He then realised he had left the microscope lamp on and had locked his keys in the lab.	
ALERT	Check that that does not appear too many times	
	She knew that if she didn't change the culture medium at weekends that the cells would die	
ERROR	<i>Syntax</i> : as the main clause after a conditional subordinate is introduced by that it , it needs no second conjunction (that)	
CORRECT	by replacing the second that by a comma She knew that if she didn't change the culture medium at weekends, the cells would die	
	I found that that particular medium that I was using for cell differentiation induced phagocytosis	
ERROR	<i>Style</i> : that is used as a conjunction , a demonstrative pronoun and a relative pronoun , respectively	
CORRECT	by replacing the second that by the and omitting the third that I found that the particular medium I was using for cell differentiation induced phagocytosis	
	rewriting the sentence I found that particular medium, used for cell differentiation, to induce phagocytosis	
	The professor said that that provided the basis for an agreement that would make grants not that large	
ERROR	<i>Style</i> : that is used as a conjunction , a demonstrative pronoun , a relative pronouns and an adverb , respectively	
CORRECT	by replacing the first that by this and the last that by so The professor said that this provided the basis for an agreement that would not make grants so large	
ALERT	Check that it is clear what that refers to	
	He said that research was unnecessary	
ERROR	<i>Semantics</i> : ambiguous, it is unclear whether that is meant as a pronoun or conjunction so this could be interpreted as one particular research project was unnecessary [that as a demonstrative pronoun] or research in general was unnecessary [that as a conjunction]	
CORRECT	[if the former is meant] by inserting an additional that He said that that research was unnecessary	
CORRECT	[if the latter is meant] by inserting as such He said that research as such was unnecessary	
ALERT	Check that the relative pronoun that refers to the correct noun	
	Spermatozoa are transferred in a droplet of medium under mineral oil in the Petri dish that will be used to perform the injection	
ERROR	<i>Semantics</i> : this implies that the Petri dish will perform the injection	
CORRECT	by replacing that by in which and to perform by will be performed	

Spermatozoa are transferred in a droplet of medium under mineral oil in the Petri dish **in which** the injection **will be performed**

That/the fact that

that	subordinating conjunction introduces a substantival clause which can be the subject of the verb to be which can govern a whole clause
the fact that	a subordinating conjunctive phrase introduces a substantival clause which can be the subject of the verb to be which can govern a whole clause

That the object of the Guidelines...

That the object of the Guidelines is to prevent accidents...

That the object of the Guidelines is to prevent accidents is logical

The fact that the object of the Guidelines...

The fact that the object of the Guidelines is to prevent accidents...

The fact that the object of the Guidelines is to prevent accidents is logical

See: [From the fact/on the ground](#)

That/these/this/those

that	refers to one of several things	distant from the speaker or being indicated previously mentioned, known or understood	Use that bottle of BSA I know that publication; it had an error in Fig. 1
these	refers to several things	close to the speaker or being indicated currently mentioned, known or understood	Use these buffers These microscopes are inadequate
this	refers to one of several things	close to the speaker or being indicated currently mentioned, known or understood	Use this buffer This review is poor
those	refers to several things	distant from the speaker or being indicated previously mentioned, known or understood	Use those bottles of medium I know of those publications but do not have them

NOTE as specific demonstrative determiners

See: [That](#), [These](#)

ALERT Check that **that is not** used with words **implying specificity**

That difference between **those** reports is difficult to explain

ERROR *Tautology*: as both **that** and **those** refer to the same difference between reports, one word is **superfluous**

CORRECT by using **one or the other**, not both, by

replacing **that** by **the**

The difference between **those** reports is difficult to explain

replacing **those** by **the**

The difference between **the** reports is difficult to explain

That/which clauses

that clauses	as defining (non-descriptive) clauses	Buses that leave from bay 5 go to London [only buses from stop 5 go to London]
	cannot be removed without altering the meaning of the sentence	Buses...
which clauses	non-defining (descriptive) clauses	Buses, which leave from bay 5 , go to London [all buses leave from bay 5]
	can be removed without altering the meaning of the sentence	Buses go to London

See: [Defining/non-defining adjectival clauses](#), [That clauses](#)

That/which/who

that	in defining (non-descriptive) clauses only of things, collective nouns	This is the laboratory that the university paid for This is a portrait of Ebo that was painted last week [as that refers to insentient objects, it refers to the portrait not Ebo]
which	in defining (non-descriptive) clauses of animals in non-defining (descriptive) clauses of animals of things	This is the rat which escaped last week The rat, which is in the cage, is infertile The vortex mixer, which has a broken lid, needs to be mended
who	in defining (non-descriptive) clauses of persons in non-defining (descriptive) clauses of persons	That is the man who gave the last lecture That man, who gave the last lecture, came from Münster This is a portrait of Ebo, who retired last week [as who refers to people, it refers to Ebo not the portrait]

See: [Defining/non-defining adjectival clauses](#)

ALERT Check that **who** is used for people

I saw the German scientists **that** were attending the meeting

ERROR *Syntax*: scientists are people

CORRECT by using **who**

I saw the German scientists **who** were attending the meeting

His lab. technicians, the most important of **which** was a Chinese, also attended the banquet

ERROR *Syntax*: technicians are people

CORRECT by **using who**

His lab. technicians, the most important of **whom** was a Chinese, also attended the banquet

That aside

See: [Having put that aside/that aside](#)

That being so

See: [Being so/the case](#)

That being the case

See: [Being so/the case](#)

That is not the case

Style: verbosity, can be shortened: replace by **that is not so**

That said

See: [Having said that/that said](#)

Thawed

See: [Frozen/frozen-thawed/thawed](#)

The

See: [Definite/indefinite/no article](#), [Determiners](#)

The case in question

Style: verbosity, can be shortened: replace by **this case/patient/situation**

The cause was due to

Tautology: as **cause** is what something is **due to**, one word is *superfluous*: use **the cause was X**

The fact of the matter is

Style: verbosity, can be shortened: replace by **the fact is [or omit]**

The fact that

See: [That/the fact that](#)

The fact that he had not succeeded

Style: verbosity, can be shortened: replace by **his failure**

The great majority of

Style: verbosity, can be shortened: replace by **most**

The more... the less

less can appear before a **plural count noun**

The more he applies pressure **the less people** will listen to him

(**The more [that]** he applies pressure **the less [is the chance that] people** will listen to him)

The only alternative

Oxymoron: as **alternative** is by definition either of **only two** options: use **the alternative**

See: [Alternative/choice/option/possibility](#)

The other alternative

Oxymoron: as **alternative** is by definition either of **only two** options: use **the alternative**

See: [Alternative/choice/option/possibility](#)

The question as to whether

Style: verbosity, can be shortened: replace by **whether**

The reason is because

Tautology: as **because** explains the reason, **because** is *superfluous*: use **the reason is**

The same

adjectival phrase describing a **noun**

It seems that these two **projects** are **the same**

may be followed by the conjunction **as**

He used **the same words as** I had

noun phrase the object of a **verb**

He **did the same**

may be followed by the conjunction **as**

He **did the same as** I did

is not an adverbial phrase

ALERT Check that **the same is not** used as an **adverb**

They function **the same**

ERROR Syntax: **the same** is **not** an **adverbial phrase** defining the verb to function

CORRECT by

replacing **the same** by **similarly**

They function **similarly**

creating an *adverbial phrase*They function *in the same way***ALERT** Check that **the same is not** followed by **than**He used **the same** words **that** I had**ERROR** *Syntax*: same is followed by **as** not **than****CORRECT** by **replacing *that* by *as***He used **the same** words **as** I had*The test in question**Style*: verbosity, can be shortened: replace by **this test***The tests have not as yet**Style*: verbosity, can be shortened: replace by **the tests have not***The treatment having been performed**Style*: verbosity, can be shortened: replace by **after treatment***The vast majority of**Style*: verbosity, can be shortened: replace by **most of***The way how**Pleonasm*: as **way** (a mechanism) explains how, **how** is *superfluous*: use **way***Their/them**their* genitive case preceding a **gerund**The first group binds to Wnts, preventing **their binding** to receptors*them* objective case preceding a **gerundial phrase**The first group binds to Wnts, preventing **them from binding** to their receptorsSee: [Gerunds](#), [Her/his/its/their](#), [Their/theirs/there/there's/they're](#)**ALERT** Check that **their** is necessaryThe first group of proteins binds to growth factors, preventing **their** binding to **their** receptors**ERROR** *Syntax*: ambiguous, **it is unclear** what each **their** refers to, the proteins or the factors**CHANGE** [if growth factor receptor binding is prevented] by**omitting the *second their***The first group of proteins binds to growth factors, preventing **their** binding to receptors**replacing the *first their* by *them from***The first group of proteins binds to growth factors, preventing **them from** binding to **their** receptorsSee: [Person of verbs](#)**ALERT** Check that there is no confusion when **their** is usedBoth the scientists liked **his** new statistics software**ERROR** *Semantics*: ambiguous, it is unclear **whose** software is being liked
so **this could be interpreted as**each scientist liked **different** software

or

each scientist liked **the same** software**CORRECT** [if the **former** is meant] by**replacing *both* by *each of*****Each of** the scientists liked **his** new statistics software**CORRECT** [if the **latter** is meant] by**replacing *his* by *the***Both the scientists liked **the** new statistics softwareDr Cooper and Dr Jones disliked **their** noisy neighbours**ERROR** *Semantics*: ambiguous, it is unclear **whose** noisy neighbours are disliked
so **this could be interpreted as**

each scientist lived separately and disliked his own neighbour

or

the scientists lived together and disliked the same neighbours

CORRECT [if the **former** is meant] by**inserting *each*, replacing *their* by *his own* and making neighbour singular**Dr Cooper and Dr Jones **each** disliked **his own** noisy neighbour**CORRECT** [if the **latter** is meant] by**inserting *both***Dr Cooper and Dr Jones **both** disliked their noisy neighbours*Their/theirs/there/there's/they're**their* 3rd person **possessive** pronoun**before a noun** plural subjects

(grammatical)

The students left **their books** on the table

singular subjects

(notional for unstated/unknown gender)

Has anyone/no-one/someone left **their book** here?*theirs* 3rd person **substantive** pronoun

	after a verb	plural complements (grammatical)	This is not ours, it is theirs [the students']
		singular complements (notional for unstated/unknown gender)	This is not mine, it is theirs [an unknown person's]
<i>there</i>	adverb	in, at, or to that place or position	Beware of the low ceiling; go in there cautiously
	dummy subject	used to indicate the fact or existence of something	There comes a time when you have to start writing
<i>there's</i>	contraction of	there is	There's a light in the display panel
		there has	There's been an accident
<i>they're</i>	contraction of	they are	Your books are here; they're on the desk

See: [Abbreviation/acronym/contraction/initialism](#), [Apostrophes](#), [Cleft sentences](#), [Dummy words](#), [Indefinite third person pronouns](#), [Notional agreement](#), [There is/are](#)

Theirselves/themselves

themselves third person plural reflexive
used as the object of a verb or preposition to refer to a group of people previously mentioned as the subject of the clause

See: [Herself/himself/themselves](#)

Them/they

<i>them</i>	personal pronoun	objective case	where them would be used on its own
	as object		them is used together with plural objects
			because them is objective
			can only mean
			after a preposition
<i>they</i>	personal pronoun	nominative case	where they would be used on its own
	as subject		they is used together with plural subjects
			because they is nominative
			can only mean
	in complements		used with linking verbs

The award **was given** to **them**
The award was given to my **colleagues and them**
She **trained** him better than **them**
She trained **him** better than [**she trained**] **them**
She went **to them** after the seminar

They are attending the seminar\
My **colleagues and they** are attending the seminar
She **trained** him better than **they**
She trained him better than **they** [**trained him**]
It **was they** who wrote that article

See: [Person of verbs](#)

Themselves

See: [Herself/himself/themselves](#)

Thence

See: [Hence/thence/whence](#)

Theoretical

See: [Empirical/theoretical](#)

Theory

See: [Hypothesis/idea/theory](#)

Therapeutic/therapeutical

therapeutic relating to the healing of disease

There can be little doubt that this is

Style: verbosity, can be shortened: replace by **this is probably**

There is/are

<i>is</i>	when the dummy subject	is singular
		introduces a singular partitive construction
<i>are</i>	when the dummy subject	is plural
		introduces a plural partitive construction

There is a **microscope** on the bench
There exists one **condition** where this effect is not observed
There is a **pair of posters** in the hallway
There is a **range of values** to be calculated
There are **microscopes** on the bench
There exist a few **conditions** where the same is observed
There are a **couple of treatments** available
There are a **number of items** to be discussed

See: [Cleft sentences](#)

There is no doubt that

Style: verbosity, can be shortened: replace by **no doubt/doubtless**

There will always be a miscellany of quality in terms of

Style: verbosity, can be shortened: replace by **the quality of the... will vary**

Thereafter

afterwards, then

Thereby/therefore/thus

<i>thereby</i>	as a consequence, by so doing, by that means	The students helped with the cultures, thereby gaining experience for research
<i>therefore</i>	accordingly, for that reason, so, thus	The distribution was Gaussian and therefore parametric statistical tests were applied
	does not mean for example, in this manner	

<i>thus</i>	as a result, because of this, so, therefore as a consequence, thereby in the way or manner indicated does not mean by this means, by which means, for example, to achieve this	The acid is concentrated and thus will need to be diluted I changed the medium over the weekend, thus allowing the student a day off Dr Yeung started the surgery, and while thus occupied, Dr Cooper prepared the infusion
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See: [And so/hence/therefore](#), [So/therefore](#), [So far/thus far/to date](#)

ALERT Check that **therefore** is **not** confused with **for example**

Fluorescence intensity (FI) increased throughout the duct; **therefore**, FI was significantly higher in the cauda than caput
ERROR *Semantics*: what follows **therefore** is an **example**, **not a consequence**, of the prior clause (a conclusion)
CORRECT by
rewriting the sentence by inverting the word order
 Fluorescence intensity (FI) was significantly higher in the cauda than caput; **therefore**, FI increased throughout the duct

ALERT Check the **meaning** when **thereby** is used after a **negative**

He was criticised for **not** spending more on meetings, **thereby** increasing the opportunity for students to present their work
ERROR *Semantics*: ambiguous, this implies that **not spending more** would increase opportunity, whereas logic suggests otherwise
CORRECT [if **spending more** would increase opportunity] by
replacing increasing by decreasing
 He was criticised for **not** spending more on meetings, **thereby decreasing** the opportunity for students to present their work
being more specific
 He was criticised for **not** spending more on meetings; **spending more would increase** the opportunity for students to present their work

ALERT Check that **thus** is the **intended word**

Steps of the signalling cascade were blocked; **thus**, spermatozoa were treated with an inhibitor
ERROR *Semantics*: what follows **thus** is a **condition**, **not a consequence**, of the prior clause (a conclusion)
CORRECT by
replacing thus by to achieve this after a **semicolon**
 Steps of the signalling cascade were blocked; **to achieve this** spermatozoa were treated with an inhibitor
replacing thus by for which after a **comma**
 Steps of the signalling cascade were blocked, **for which** spermatozoa were treated with an inhibitor
rewriting the sentence by inverting the word order
 Spermatozoa were treated with an inhibitor, **thus** blocking the steps of the signalling cascade

 PNA labelling upon sperm maturation differed; **thus** in the caput only the midpiece, and in the cauda only the head, was labelled
ERROR *Semantics*: what follows **thus** is an **example**, **not a consequence**, of the prior clause (a conclusion)
CORRECT by
using namely
 PNA labelling upon sperm maturation differed; **namely** in the caput only the midpiece, and in the cauda only the head, was labelled
using a participial phrase and gerund
 PNA labelling upon sperm maturation differed, **as demonstrated/judged by the labelling of** caput spermatozoa only **on** the midpiece, **and** cauda spermatozoa only **on** the head

Thereby

See: [Thereby/therefore/thus](#)

Therefore

See: [Since/therefore](#), [So/therefore](#)

Therefrom

from the thing mentioned I do not see what advantages can be derived **therefrom**

Therein

See: [Herein/therein](#)

Thereto

See: [Hereto/thereto](#)

Thereunder

in accordance with the thing mentioned Read the Instructions and the regulations **thereunder**

Therewith

with or in the thing mentioned (formal) You will be asked to forward with your Report the documents enclosed **therewith**

Theretofores

See: [Heretofore/theretofore](#), [Hitherto/thitherto](#)

These

demonstrative pronoun	subject of a verb	These are my books
demonstrative determiner, specific	defining a noun	These books are mine

See: [That/these/this/those](#)

ALERT Check that **this is not** used with words *implying specificity*

This difference between **these** studies is difficult to explain

ERROR *Tautology*: as both **this** and **these** refer to the same difference, one word is *superfluous*

CORRECT by using **one or the other**, not both, by

replacing **this** by **the**

The difference between **these** studies is difficult to explain

replacing **these** by **the**

This difference between **the** studies is difficult to explain

They

See: [Them/they](#)

They are both alike/similar

Style: both is *superfluous*, replace by **they are alike/similar**

They now find themselves in a position where they have to

Style: verbosity, can be shortened: replace by **they have to**

Thick/thickness

thick adjective

Tissue sections 4 µm **thick** were fixed and stained

thickness noun, often requires the preposition **of**

Tissue sections **of** 4 µm **thickness** were fixed and stained

Tissue sections **of thickness** 4 µm were fixed and stained

Third/thirdly

third ordinal number

coming **after** the **second** in time or order

He came **third** in the class

adjective

occurring in position number **three**

This is his **third** publication on cancer of the epididymis

when the ordinal number **qualifies a noun**

He had 3 **objections**: it was 1st, too far; 2nd, too dear; 3rd, too heavy

thirdly adverb

in a list, occurring in position number **three**

He first air-dried the cells, secondly fixed them, and **thirdly** stained them

See: [Cardinal/ordinal numbers](#), [Numbers](#)

This

demonstrative pronoun

subject of a **verb**

This is my book

demonstrative determiner, specific

defining a **noun**

This book is mine

See: [That/these/this/those](#)

This being so

See: [Being so/the case](#)

This being the case

See: [Being so/the case](#)

This is a must

Style: **layman** terminology, colloquial speech, replace by **this is necessary/obligatory**

See: [Crucial/necessary/obligatory](#), [Have/must](#)

This is a subject which

Style: verbosity, can be shortened: replace by **this subject**

This moment in time

Style: verbosity, can be shortened: replace by **currently/now**

This was the case

Style: verbosity, can be shortened: replace by **this was true**

Thither

See: [Hither/thither/whither](#)

Thitherto

theretofore, until then

See: [Heretofore/theretofore](#), [Hitherto/thitherto](#)

Those

See: [That/these/this/those](#)

Though

See: [Albeit/although/though](#), [As if/though](#), [If/though](#)

Thresholds

See: [Above/below/within limits](#), [Between... and.../from... to...](#)

Thrice/treble/triple

<i>thrice</i>	adverb	three times, triple	
		as many	After treatment there were thrice the number of spermatozoa
		as much	After treatment there was thrice the volume of semen
<i>treble</i>	adjective	on three occasions	The spermatozoa were washed thrice
		three times in succession	
		for actions	He always makes treble checks
	verb	for a number	Her phone number is 5-3-7- treble zero (5-3-7-0-0-0)
		to increase by a factor of three , to treble	
<i>triple</i>	adjective	intransitive	The sperm count trebled after hormone treatment
		transitive active	Hormone treatment trebled the sperm count
		passive	The sperm count was trebled by hormone treatment
	adverb	three times	Triple -strength medium
		of three parts	Triple bond
	verb	three times, thrice	
		as many	After treatment there were triple the number of spermatozoa
		as much	After treatment there was triple the volume of semen
		to increase by a factor of three , to triple	
		transitive, active	Hormone treatment tripled the sperm count
		transitive, passive	The sperm count was tripled by hormone treatment
		intransitive	The sperm count tripled after hormone treatment

See: [Times as much as/more than/less than](#)

Through

See: [Between... and... /from... to..., Inclusive/through](#)

Through the use of

Style: verbosity, can be shortened: replace by **by/with**

See: [Using](#)

Throughout the entire area

Style: verbosity, can be shortened: replace by **throughout the area**

Throughout the whole of the experiment

Style: verbosity, can be shortened: replace by **throughout the experiment**

Thus

See: [Thereby/therefore/thus](#)

Thus far

See: [So far/thus far/to date](#)

t.i.d. (Latin)

See: [b.i.d./q.d./q h/q.i.d./t.i.d](#)

Till/'till/'til/until

till/until

NOTE interchangeable prepositions/conjunctions

See: [Until](#)

Time

count noun	with specific determiner, definite article	Thanks for taking the time to fill in the form	[refers to the specific time it took]
mass noun	with no specific determiner, definite article	Thanks for taking time to fill in the form	[refers to any time it takes]

See: [Definite/indefinite/no article](#), [Determiners](#), [Money/time](#)

Time-lapse photography

See: [High-speed/time-lapse photography](#)

Times

See: [Multiply/times](#)

Times as much as/more than/less than

<i>times as much as</i>	the original number multiplied by the number of times given				
	twice (two times) as much	2 x 3 = 6			
	thrice (three times) as much	3 x 3 = 9			
<i>times more than</i>	the original number added to itself for the number of times given				
	[once] more than	3 [+ 3] = 6	means twice as much	[6 = 2 x 3]	
	[twice] more than	3 [+ 3 + 3] = 9	means three times as much	[9 = 3 x 3]	
	[three times] more than	3 [+ 3 + 3 + 3] = 12	means four times as much	[12 = 4 x 3]	
<i>times less than</i>	avoid , since				
	once less than	3 [- 3] = 0	means none		

four times less than 3 $[-3 - 3 - 3 - 3] = -9$ means minus three times $[-9 = 3 \times -3]$

See: [Mathematical comparators/operators](#), [Repetition](#), [Spaces](#)

Tissue

See: [Organ/tissue](#)

To/too/two

to	preposition	in the direction of	I go to every seminar
	infinitive marker (subordinator, particle)	of the non-finite, full infinitive verb form	My aim is to go
too	adverb	excessively	He speaks too fast and writes too slowly
two	a cardinal number	the second cardinal number, more than one, less than three	2 , ii, II

See: [Between... and... /from... to...](#), [By/to](#), [Cardinal/ordinal numbers](#), [Infinitives](#)

To all intents and purposes

in all important aspects

Style: **and purposes** is *superfluous*, **to all intents** alone is *sufficient*

To be

a linking verb				I am
of complete predication	to exist			To be or <i>not to be</i>
				The epididymis was infected
of incomplete predication	with a complement of	an <i>adjective</i> a <i>noun</i>		I am a scientist
		a pronoun in the nominative		To be or <i>not to be</i> an <i>epididymologist</i>
				It is I who decides what changes are made
a non-modal auxiliary verb followed by participles				
present participle	used to form	all <i>tenses</i>		
		simple future		They will be working then
		future perfect		At that time they will have been working for 2 h
		simple present		They are working now
		present perfect		They have been working for some time
		simple past		They were working then
		past perfect (pluperfect)		By then they had been working for an hour
past participle	used to form	the <i>subjunctive mood</i> the <i>passive voice</i> the <i>subjunctive mood</i>		If he were living here now, he would enjoy the view
				It was finished for time ago
				It was intended that the work be finished this week

See: [Auxiliary verbs](#), [Auxiliary/lexical verbs](#), [Modal/non-modal/quasi-modal verbs](#)

To become

a linking verb	with no predicate but a complement of	an <i>adjective</i> a <i>noun</i>	She became angry He became Director
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To claim that... is/are

is the infinitive introduces a **noun clause** which is *singular* **To claim that these are new data is** clearly untrue

To dare

a lexical verb	followed by the <i>full infinitive</i>	I dare you to do it
a non-modal auxiliary verb	followed by a <i>base infinitive</i>	I dare do it

See: [Auxiliary verbs](#), [Infinitives](#)

To date/up to date/up-to-date

to date	adverbial phrase	until now, up to this point, up to now	describing a <i>verb</i>	To date there <i>is</i> no information on this
up to date	prepositional phrase	the latest developments and trends	describing a <i>verb</i>	Bring me up to date on your research progress
up-to-date	attributive adjective	incorporating the latest developments	describing a <i>noun</i>	The review is an up-to-date account progress

See: [So far/thus far/to date](#)

To do

a lexical verb	to perform an action	He does the text and I do the graphs and figures
a non-modal auxiliary verb	followed by a <i>base infinitive</i> for emphasis	I did go
	negatives of main (lexical) verbs	I did not go last night
	interrogatives	Do you <i>think</i> it was a good lecture?

See: [Auxiliary verbs](#), [Infinitives](#), [Inversion of verbs and subjects](#)

To have

a lexical verb	to possess	I have a new microscope
a non-modal auxiliary verb	followed by a <i>past participle</i> to form the	
	present perfect	from a given time until the present
	past perfect	from one time to a given time in the past
		Since 1980 I have written 10 reviews
		By 1980 I had written 5 reviews

See: [Ago/by/since](#), [Auxiliary verbs](#)

To investigate

See: [For the investigation of/to investigate](#)

To let

a lexical verb	to rent out	I let my flat to the new student
a non-modal auxiliary verb	followed by a base infinitive to allow, permit	I shall let him come to the seminar although he has not paid to attend

See: [Auxiliary verbs](#), [Infinitives](#)

To need

a lexical verb	to require something because it is important	I need this microscope because of its negative phase optics
a non-modal auxiliary verb	followed by a base infinitive to express necessity or obligation	All you need bring are your sterilised instruments

See: [Auxiliary verbs](#), [Infinitives](#)

To my opinion

See: [In/to my opinion](#)

To my mind

See: [In/to my opinion](#)

To seem

a linking verb	with no predicate but a complement of	an adjective	She seems clever
		a verb	I seem to remember I gave you the samples
		a noun clause	It would seem that he has been lying

To the best of our knowledge

Style: verbosity, can be shortened: replace by **to our knowledge** [or omit]

To the contrary

See: [On/to the contrary](#)

To the extent that

Style: verbosity, can be shortened: replace by **as/because/for/inasmuch/in so far as/in that**

To who/whom

to whom the objective case is used after a preposition (to)

See: [Who/whom](#)

To will

a lexical verb	to have the will to	All right, have it your way, not as I will but as the rules dictate
a non-modal auxiliary verb	followed by a base infinitive for all persons	
	to stress an assertion about the future	Whatever the outcome of the exams I will succeed
	for the 2 nd /3 rd person singular/plural	
	to form the future tense simple future	He will do it tomorrow
	future perfect	At that time they will have been working for 2 h

See: [Auxiliary verbs](#), [Infinitives](#), [Shall/will](#)

Toe/tow the line

toe the line to accept the authority, policies or principles of a particular group, especially unwillingly

Together

with or in proximity to another person or people

NOTE Overused word: often used unnecessarily, especially when used with words implying **togetherness** [omit]

Together with/with

together with	prepositional phrase	along with, as well as, in addition to followed by a singular verb	The student together with his mother is holding up the ceremony
with	preposition	accompanied by followed by a singular verb	The student with his mother is holding up the ceremony

Style: **together** is **unnecessary**, **with** alone is **sufficient**

NOTE interchangeable preposition and prepositional phrase
are not conjunctions

See: [And/as well as](#), [And/with](#), [By/with](#), [Plus/with](#)

ALERT Check when using **together with** that the verb **agrees in number** with the subject

The professor, **together with** her students, **were** doing surgery in the hospital

ERROR *Syntax*: **together with** is a prepositional phrase, which **does not** govern the verb

CORRECT by **using** the **singular**

The professor, together with her students, **was** doing surgery in the hospital

Tolerance/toleration/tolerisation

tolerance the capacity to endure continued subjection to something without adverse reaction
non-judgmental acceptance of different lifestyles and beliefs

toleration the practice of putting up with something that one disapproves of

tolerisation the induction of immunological tolerance to an antigen

Tolerant of/to

tolerant of showing willingness to allow the existence of opinions or behaviour that one does not necessarily agree with

Ton/tonne

ton non-metric system (**pronounced** to rhyme with **gun**)

long ton (weight ton, gross ton) 1016.05 kg

British (2,240 lb avoirdupois) 1 long ton = 1.016 tonne

short ton (net ton) 907.19 kg

American (2,000 lb avoirdupois) 1 short ton = 0.907 tonne

tonne metric system (**pronounced** to rhyme with **gone**)

metric ton 1000 kg 1 tonne = 0.984 long tons = 1.102 short ton

See: [Avoirdupois/troy](#)

Tonicity

See: [Molality/osmolality/osmolarity/tonicity](#)

Too

to a higher degree than is desirable, permissible or possible; excessively
also, in addition
moreover

The data were **too** precise to be true

Are the students coming **too**?

She is an intelligent student and hard-working **too**

See: [So/too](#)

Too... a

when **too** modifies an **adjective** in the same noun phrase as the **indefinite article**
the **determiner** comes **second** That was **too good an** opportunity to miss

See: [Adjectives, Determiners](#)

Too many/much

too many for **count** nouns used with the **plural** **Too many** mice **were** in one cage

too much for **mass** nouns used with the **singular** **Too much** Ca²⁺ **is** in the medium

Top copy

See: [Copy/original/top copy](#)

Tortuous/torturous

tortuous twisting and turning The **tortuous** epididymal tubule was exposed after removing the capsule

Total

comprising the entire or whole number or amount, complete

NOTE *Overused word*: often used unnecessarily [**omit**]

See: [Absolute adjectives](#)

ALERT Check that **total is not** used with words **implying totality**

The product will bring **total** elimination of the contamination

ERROR *Pleonasm*: elimination means **total** removal

CORRECT by **omitting total**

The product will bring **elimination** of the contamination

Total number of five

Tautology: as five **is** a number, **number** is **superfluous**: replace by **total of five/five**

Total of

useful at the beginning of a sentence (where cardinal numbers are given in **words** not figures)

NOTE *Overused phrase*: often used unnecessarily [**omit**]

See: [A/the total of... is/are](#), [Numbers in words/figures](#)

ALERT Check if **numbers in words** can be avoided

One thousand, seven hundred and forty three protein spots were identified in the 2D gels

STYLE *Pronunciation:* difficult to read

CHANGE by

inserting **a total of**, replacing **words** by **numbers** and **were** by **was**

A total of 1743 protein spots **was** identified in the 2D gels

inserting **many** and replacing **words** by **numbers** within **brackets**

Many protein spots (**1743**) were identified in the 2D gels

ALERT Check whether **total of** is necessary

The experiments involved **a total of** 30 mice and 40 rats

STYLE *Verbosity:* can be shortened

CHANGE by

omitting **a total of**

The experiments involved **30** mice and **40** rats

giving the **total number of animals**

The experiments involved **a total of 70 animals**

Totally

completely, absolutely

NOTE *Overused word:* often used unnecessarily [**omit**]

See: [Absolute adjectives](#)

ALERT Check that the use of **totally** is necessary

I was **totally** convinced

ERROR *Pleonasm:* one is either **convinced** or **not**

CORRECT by omitting **totally**

I was convinced

The acrosomal response to progesterone was **totally** abolished

ERROR *Pleonasm:* abolition **can only be total** (if something remains it has not been abolished)

CORRECT by omitting **totally**

The acrosomal response to progesterone was abolished

Tow the line

See: [Toe/tow the line](#)

Toward/towards

toward confusion with **American English**

towards in the direction of

as regard, in relation to

contributing to the cost of something

He walked briskly **towards** the podium

His attitude **towards** research was poor

The society provided a grant **towards** the cost of a new microscope

Trace back

Pleonasm: as **trace** implies going back in time, **back** is **superfluous**: use **trace**

Trans-

See: [Prefix list](#)

Transcendental numbers

See: [Algebraic/transcendental numbers](#)

Transcribed/transcripted

transcribed past participle of the verb **to transcribe**

See: [Back-formation](#)

Transfer/transference

transfer verb to move from place to place

noun the act of moving something to another place

transference noun the process of being transferred

You should **transfer** your results to the archive

He was involved in the **transfer** of knowledge to developing nations

Education involves the **transference** of knowledge

Transformate/transform

transform to make a marked change in the form, nature or appearance of

See: [Back-formation](#)

Transformated/transformed

transformed past participle of the verb **to transform**

See: [Back-formation](#)

Transformations of the equations was achieved

Style: verbosity, can be shortened: replace by **the equations were transformed**

Transgenic/transgenic

transgenic denoting an organism that contains genetic material into which DNA from an unrelated organism has been introduced

See: [Back-formation](#)

Transit

noun the carrying of people/things from one place to another
the action of passing through or across a place
verb to pass across or through

The microscope was damaged in **transit**
Residents now have the freedom of **transit** across the territory
The container ships are too large **to transit** the Panama Canal

ALERT Check that **transit** is used correctly

This aids spermatozoa **transit** through the epididymal tubule

ERROR Syntax: as **transit** means to **pass through**, it **needs no** additional preposition (**through**) after it

CORRECT by **omitting through**

This aids spermatozoa **transit** the epididymal tubule

Transitive

See: [Intransitive/transitive verbs](#)

Transmission

former terminology for transmittance

See: [Absorbance/transmittance](#)

Transmittance

See: [Absorbance/transmittance](#)

Transmittancy

former terminology for transmittance

See: [Absorbance/transmittance](#)

Transnational

See: [Global/inter-/multi-/supra-/trans-national](#)

Transpire

to come to be known

It **transpired** that his application did not arrive because his email had been hacked

does not mean to happen

Transplant in/into

into to move or transfer from one place **to** another

Transport/transportation

transport a system or means of conveying

The epithelial cells are responsible for the **transport** of ions and fluids

transportation the process of being transported

The era of global **transportation** has reduced the cost of shipping equipment

Traverse

traverse to travel across or through

Spermatozoa mature as they **traverse** the epididymis

ALERT Check that **traverse** is used correctly

Peristalsis helps spermatozoa **traverse** through the epididymis

ERROR Syntax: as **traverse** means to **pass through**, it **needs no** additional preposition (**through**) after it

CORRECT by **omitting through**

Peristalsis helps spermatozoa **traverse** the epididymis

Treatment modality

Style: verbosity, can be shortened: replace by **treatment**

Treble

See: [Thrice/treble/triple](#)

Tri- (Greek, Latin)

three, having three

Trisomy (having three chromosomes)

See: [Prefix list](#)

Triannual/triennial

triannual thrice a year (thrice yearly, every four months) **and** once every three years (tri-yearly)

triennial once every three years (tri-yearly) **and** thrice a year (thrice yearly, every four months)

NOTE confusing, **avoid**, use Three times a year **or** Every three years

Triple

See: [Thrice/treble/triple](#)

Triplicates

See: [Duplicate/replicate/triplicate](#)

Troy

See: [Avoirdupois/troy](#)

Truism

a self-evident or indisputable truth

does not mean a true thing

Try and/to

try and	implies encouragement	auxiliary verb followed by a base infinitive	Try and solve it	(Try and [you will] solve it)
try to	the usual form	auxiliary verb followed by a full infinitive	Try to solve it	

Tubular/tubule

tubular	adjective	long, round and hollow like a tube	The organ is tubular
		of the tubule	The total human epididymal tubular length is 5 m
tubule	noun	a histological structure	The human epididymal tubule is 5 m long

NOTE for **double** adjectives/genitives (diameters **of the** tubules **of the** testis)
use **one** adjective **testicular** tubule diameters or **two** **testicular tubular** diameters

Twice

See: [Double/twice](#)

Two different methods

Pleonasm: if they **weren't different** they would be the same method, **different** is **superfluous**: use **two methods**

Two equal halves

Pleonasm: as **half** implies equality, **equal** is **superfluous**: use **two halves**

Type/types of

type of	partitive construction		
	its object is	singular	The Dean is familiar with this type of student
types of	as subject	the partitive construction itself (singular) is the head noun	This type of student is outspoken
	partitive construction		
	its object can be	singular	The Dean is familiar with these types of student
	can be	plural	The Dean is familiar with these types of students
	as subject	the partitive construction itself (plural) is the head noun	These types of student are outspoken

ALERT Check when using **type of** that the verb **agrees in number** with the subject

Those are the **type of** student who **works** hard

ERROR Syntax: **type, works** are **singular** but **those, are** is **plural**

CORRECT by

replacing **those are** by **this is**

This is the **type of** student who **works** hard

replacing **type** by **types** and **works** by **work**

Those are the **types of** student who **work** hard

Type/s of... is/are

is	as type is singular	This type of student works hard
are	as types is plural	These types of students work the hardest

Typeset/typsetted

typeset the past tense and past participle of the verb **to typeset**

Typically

adverb as a matter of routine or common practice, customarily, normally, usually It **typically** takes 30 min to complete the zinc assay

ALERT Check that **typically** is **not** used with words **implying certainty**

Typically these procedures are normally involved in getting informed consent forms signed

ERROR Tautology: as **typically** and **normally** both mean as a matter of routine, one word is **superfluous**

CORRECT by using **one or the other**, not both, by

omitting **normally**

Typically these procedures are involved in getting informed consent forms signed

omitting **typically**

These procedures are **normally** involved in getting informed consent forms signed

Ubiquitinated/ubiquitinated/ubiquitinated
 ubiquitinated of a protein: bound to ubiquitin

Ubiquitination/ubiquitinylation/ubiquitylation
 ubiquitination the binding of ubiquitin by a protein

UHT treatment
 See: [Pasteurisation/UHT treatment](#)

Ultimate
 See: [Penultimate/ultimate](#)

Ultradian rhythms
 See: [Circa-/infra-/ultra-dian rhythms](#)

$\mu\text{m}/\mu\text{M}/\mu\text{mol}$
 μm micrometre a distance (10^{-6} metre)
 μM micromolar a concentration (micromole per l)
 μmol micromole an amount

ALERT Check whether you mean **concentration** or **amount**

[on graph ordinate] Concentration ($\mu\text{M}/\text{l}$)
 ERROR *Syntax*: μM is a concentration ($\mu\text{moles per litre}$), which cannot be expressed **per litre**
 CORRECT by
 replacing μM by μmol
 Concentration ($\mu\text{mol}/\text{l}$)
 omitting *litre*
 Concentration (μM)

Unanticipated
 See: [Surprising/unanticipated/unexpected](#)

Unattached gerunds/infinitives/participles
 See: [Position of modifiers](#)

Unbroken line
 See: [Continuous/solid/unbroken line](#)

Uncertainty
 See: [Certainty/uncertainty](#)

Under
 preposition **below** or **beneath** something

NOTE *Overused word*: often used incorrectly, replace by a **more suitable word**

ALERT Check that **under** is the **intended word**

Spermatozoa were counted **under** phase contrast microscopy
 ERROR *Semantics*: **under** makes no sense with an abstract noun (microscopy)
 CORRECT by
 inserting *conditions of*
 Spermatozoa were counted **under conditions of** phase contrast microscopy
 replacing **under** by **in a** and **microscopy** by **microscope**
 Spermatozoa were counted **in a** phase contrast **microscope**

Under a microscope

literal	under means beneath something with an upright microscope with an inverted microscope	a bench is usually under a microscope slides are placed culture dishes are placed in a microscope	but under (<i>beneath</i>) the lens and over (<i>above</i>) the lens
figurative	layman terminology, colloquial speech	on the microscope stage on the microscope stage through a microscope lens	

ALERT Check that **under** is correctly used

The samples were examined **under** a microscope
 ERROR *Semantics*: samples **under** a microscope **are hidden** by it
 CORRECT by
 replacing **under** by **in**
 The samples were **examined in** a microscope
 replacing **a microscope** by **40x bright-field lens**
 The samples were examined **under** a **40x bright-field lens**
 replacing **examined in** by **observed through**
 The samples were **observed through** a microscope
 replacing **under a microscope** with **by microscopy**
 The samples were examined **by microscopy**

Under no circumstances

See: [In/under no circumstances](#)

Under the circumstances

See: [In/under the circumstances](#)

Undergone

experienced or subjected to something, typically unpleasant

NOTE *Overused word*: often used unnecessarily, replace by **what was undergone** [or omit]

Understand

See: [Appreciate/realise/understand](#)

Undertaken

past participle of the verb to undertake

NOTE *Vague word*: replace by **what was undertaken**

See: [Overused words](#), [Study](#), [Using](#)

ALERT Check whether **undertaken** should be **replaced** by a **more informative word**

A study **investigating** the association of seminal cholesterol and sperm quality was **undertaken**

STYLE *Verbosity*: can be shortened

CHANGE by **emphasising what was undertaken**

The association of seminal cholesterol and sperm quality was **investigated**

Undoubtedly/undoubtedly

undoubtedly without doubt, certainly

See: [Back-formation](#), [Indubitably/undoubtedly](#)

Undue

inappropriate, unnecessary, unreasonable, unwarranted (because excessive or disproportionate) He spent an **undue** amount of time on his review

ALERT Check the meaning when using **undue**

There is no cause for **undue** alarm

ERROR *Semantics*: this means there is no cause for alarm for which there is no cause

CORRECT [if it is **not** necessary to be alarmed] by

omitting undue

There is no cause for alarm

moving undue before **cause**

There is no **undue** cause for alarm

Unequal for/to

unequal to not equal in quantity, size or value **to** another

Unequivocally/unequivocally

unequivocally in a way that leaves no doubt

See: [Back-formation](#)

Unequivocal

See: [Equivocal/unequivocal](#)

Unexceptionable/unexceptional

unexceptionable as expected, not open to objection, satisfactory, usual

unexceptional not outstanding, ordinary, perfectly satisfactory

The control rats' behaviour was **unexceptional**

His thesis was **unexceptional**

Unexpected

See: [Surprising/unanticipated/unexpected](#)

Unfeasible

See: [Feasible/unfeasible](#)

Unfortunately

adverb used to describe a whole clause

placed at the **beginning** of the sentence **Unfortunately**, we have no sterile scalpels left [It is **unfortunate** that we have no sterile scalpels left]

Uni-lateral/-laterally

unilateral adjective performed by only one person, group or country
affecting only one side of a structure

The students made a **unilateral** decision to withdraw from the club
He has from congenital **unilateral** absence of the vas deferens (CUAVD)
The tumours were **unilateral**

unilaterally adverb occurring on one side of a structure

The tumours occurred **unilaterally**

Unique

having no like or equal, one and only, single, sole, unrivalled, unparalleled

there is **only one** unique item

does not mean exceptional, rare

See: [Absolute adjectives](#)

ALERT Check that **unique** *is not* used with **qualifying words**

This work is comparatively/more/most/nearly/quite/rather/somewhat/very unique

ERROR *Oxymora*: these adjectives express **degree** which is inapplicable to an **absolute**

CORRECT by **omitting** the **adjectives**

This work is **unique**

Uninterested

See: [Disinterested/uninterested](#)

Unite together

Pleonasm: as **unite** implies coming together, **together** is **superfluous**: use **unite**

Unknown

See: [Doubtful/unknown](#)

Unless

See: [Except/unless](#)

Unless and until

Oxymoron: as **unless** refers to **conditional** events and **until** refers to **unconditional** events, one word is **superfluous**: use **one or the other**, not both

Unlike

See: [As was not the case/not as/unlike](#)

Unnecessary

See: [Superfluous/unnecessary](#)

Unregulated

See: [Deregulated/unregulated](#)

Unrepairable

See: [Irreparable/unrepairable](#)

Unsatisfied

See: [Dissatisfied/unsatisfied](#)

Until

conjunction **up to** the point in time or the event mentioned

You don't know if you can cannulate **until** you try

preposition **up to** the point in time or the event mentioned

You have **until** Sunday to hand in your essays

See: [By/until](#), [Just now/still](#), [Since/until](#)

Until such time as

Style: verbosity, can be shortened: replace by **until**

Until/up to now

until now **up to** the point in time or the event, just now

used with the **past perfect** tense

We **hadn't received** the sequence **until now** [we have only **just now** received it]

up to now **as far as** the point in time or the event, by now, yet

used with the **present perfect** tense

We **haven't received** the sequence **up to now** [we have **still not** received it]

See: [By/until](#), [Just now/still](#)

Untoward

inappropriate or inconvenient, unexpected, unusual, usually unpleasant

Let's hope nothing **untoward** happens to the culture over the weekend

Up

adjective attributive moving towards a higher place or position

The **up** escalator

denoting trains travelling towards the major point on a route

The first **up** train

predicative at an end

His contract was **up** in three weeks

adverb towards a higher place or position

He jumped **up**

at or to a higher level of intensity, volume or activity

She turned the voltage **up**

preposition from a lower to a higher point

They had to climb **up** a flight of steps to get there

Up to date/up-to-date

See: [To date/up to date/up-to-date](#)

Up until/until/until

until up to the point in time or the event mentioned

See: [By/until](#), [Since/until](#)

Upon

See: [On/onto/on to/upon](#)

Upon consideration of

See: [In/upon consideration of](#)

Upward/upwards

upward	adjective	moving, leading to a higher level	There is an upward trend in the journal's Impact Factor
	adverb	towards a higher level	He had to tilt his head upwards to see the tope of the poster'
upwards	adverb	towards a higher level	She looked upwards to the ceiling to avoid his face

Upward/upwards of

more than They anticipate **upward/upwards of** 2,000 students to apply

Upper case

See: [Lower/upper case](#)

Up-regulation

See: [Down-/up-regulation](#)

Urge

See: [Dictate/necessitate/urge](#)

Us/we

us	personal pronoun as object	objective case used on its own followed by a description (personal determiner) with plural objects with elided clauses	The prize was given to us That's what happens to us old scientists The prizes were given to us and you/them/others She trained him better than us (She trained him better than [she trained] us)
we	personal pronoun as subject	nominative (subject) case used on its own followed by a description (personal determiner) with plural subjects with elided clauses	We go to work on alternate Saturdays That is what we retired scientists agree on We and you/they/other students go to work every Saturday She trained him better than we (She trained him better than we [trained him])
	in complements	used with linking verbs	It was we who wrote that article

See: [Nominative \(subject\) case](#), [Objective \(object\) case](#), [Person of verbs](#)

ALERT Check the order of **personal pronouns** when mentioned with others

Other groups and **we** will be attending the seminar
STYLE *Politeness*: put your **friends** (included in **we**) before others
CHANGE by **re-ordering** the **subjects**
We and **other groups** will be attending the seminar

The award was given to the other runners up and **us**
STYLE *Politeness*: put your **friends** (included in **us**) before others
CHANGE by **re-ordering** the **objects**
The award was given to **us** and **the other runners up**

Usage/use/utilisation

usage	the manner of using in grammar the way a words are correctly used	With careful usage , the equipment will last five years This is an excellent glossary those interested in word usage and origins
use	the act of using	The microscope has been put to good use
utilisation	the action of making effective use of something	We need to take steps to increase the utilisation of resources

See: [Grammar/style](#), [Idiomatic word usage](#)

Use

a quasi modal	auxiliary verb		
	as lexical verb	followed by an object	to deploy as a means of achievement
	as auxiliary verb	followed by a base infinitive	to do something habitually
			I used the medium from yesterday He used to write the papers himself

See: [Auxiliary verbs](#), [Modal/non-modal/quasi-modal verbs](#), [Used/used for/used to](#)

Use/utilise

use	to deploy as a means of achieving something	He used a microscope to examine sperm motion
utilise	to make use of something that was not intended for that purpose	He utilised a paperclip to clear the blocked pipette tip

to make practical and effective use of

For making the smear she **utilised** every part of the slide

Used/used for/used to

used	past tense of the verb to use		He used the microscope every day
	past participle of the verb to use	present perfect tense	He has used this microscope every week
	adjective	already been used	The department bought a used microscope
used for	past participle followed by a preposition	for the purpose of	The new methods were used for assessing sperm viability
	negated by inserting not before the participle		The old methods were not used for assessing viability
used to	past participle followed by a full infinitive	for the purpose of	These drugs are used to treat infertility
		taken advantage of	He was used to sell the journal [his fame helped sales]
	quasi-modal verb followed by a full infinitive	for habits, customs	She used to plan her experiments [but no longer does]
	negated by inserting not before the infinitive		She used not to plan her experiments
	adjectival phrase followed by a gerund	accustomed to, not new to	He was used to selling the journal [he'd done it before]

See: [Modal/non-modal/quasi-modal verbs](#)

ALERT Check that **used for** refers to a subject **capable of using** something

Adult male mice were **used for** collecting spermatozoa from the epididymis

ERROR *Semantics*: this implies that someone arranged for **the mice to** collect epididymal spermatozoa

CORRECT by **replacing used for** by

used as and **replacing collecting by a source of**

Adult male mice were **used as a source of** spermatozoa from the epididymis

collected from and **rewriting the sentence**

Spermatozoa from the epididymis were **collected from** adult male mice

Useful/usefulness/utility

useful	adjective	able to be used for a practical purpose	The test is useful for distinguishing benign from malignant cancers
usefulness	noun	the state of being useful, utility	The usefulness of the test has not been proven in a clinical setting
utility	noun	the state of being useful, usefulness	The utility of the test has not been proven in a clinical setting

See: [Beneficial/useful](#)

Using

non-finite forms of the verb to use

a **participle** (verbal adjective) and **gerund** (verbal noun)

as participle can define a **noun, pronoun** and **noun phrase**

does not define verbs

to define **verbs** use

in most cases

a **gerundial phrase** by using

for simple instruments and methods

a **preposition** by

from

in

on

through

with

for more complex instruments and methods

prepositional phrases by means of

by the use of

with the aid of

The motile spermatozoa **were separated by using** density gradient centrifugation

Epididymal spermatozoa **were extracted by** gentle shaking

The concentration of protein **was determined from** a bicinchoninic acid protein assay kit

Spermatozoa **were examined in** a microscope

Sperm sorting **was performed on** washed samples

Liquids **were filtered through** 90 g/m² filter paper

Kinematic parameters **were determined with** a computerised method

Sperm ploidy **was assessed by means of** flow cytometry

Kinematic parameters **were determined by the use of** a CASA-Mot system

Tissue fragments **were removed with the aid of** fine forceps

NOTE *Overused word*: after a **verb**, replace by a **relevant alternative**

See: [By/by the use of/by using/using](#), [Gerunds/participles](#)

ALERT Check that **using** does not follow a **past participle**

Proteins were **co-localised using** confocal microscopy

ERROR *Syntax*: a participle **does not** define a verb

CORRECT by **replacing using** with **by**

Proteins were co-localised **by** confocal microscopy

Osmolality was **measured using** an osmometer

ERROR *Syntax*: a participle **does not** define a verb

CORRECT by **replacing using** with **by means of**

Osmolality was measured **by means of** an osmometer

Compounds were **crystallised using** chloroform

ERROR *Syntax*: a participle **does not** define a verb

CORRECT by **replacing using** by **from**

Compounds were crystallised **from** chloroform

Absorbance was **measured using** a spectrophotometer

ERROR *Syntax*: a participle **does not** define a verb

- CORRECT by **replacing *using* by *in***
Absorbance was measured **in** a spectrophotometer
- Sorting tests were **performed *using*** washed samples
- ERROR *Syntax*: a participle ***does not*** define a verb
- CORRECT by **replacing *using* by *on***
Sorting tests were performed **on** washed samples
- Liquids were **filtered *using*** 90 g/m² filter paper
- ERROR *Syntax*: a participle ***does not*** define a verb
- CORRECT by **replacing *using* by *through***
Liquids were filtered **through** 90 g/m² filter paper
- pH was **measured *using*** a pH meter
- ERROR *Syntax*: a participle ***does not*** define a verb
- CORRECT by **replacing *using* by *with***
pH was measured **with** a pH meter
- Solutions were **heated *using*** a hot-plate
- ERROR *Syntax*: a participle ***does not*** define a verb
- CORRECT by **replacing *using* by *on***
Solutions were heated **on** a hot-plate
- Spermatozoa were **removed *using*** a micropipette
- ERROR *Syntax*: a participle ***does not*** define a verb
- CORRECT by **replacing *using* by *with***
Spermatozoa were removed **with** a micropipette
- Kinematic parameters were **determined *using*** a computer method
- ERROR *Syntax*: a participle ***does not*** define a verb
- CORRECT by **replacing *using* with *by means of***
Kinematic parameters were determined **by means of** a computerised method
- Tissue fragments were **removed *using*** fine forceps
- ERROR *Syntax*: a participle ***does not*** define a verb
- CORRECT by **replacing *using* by *with***
Tissue fragments were removed **with** fine forceps
- Cell volume was **measured *using*** flow cytometry
- ERROR *Syntax*: a participle ***does not*** define a verb
- CORRECT by **replacing *using* with *by means of***
Cell volume was measured **by means of** flow cytometry
- Slides were **examined *using*** microscopy
- ERROR *Syntax*: a participle ***does not*** define a verb
- CORRECT by **replacing *using* with *by***
Slides were examined **by** microscopy
- replacing *using microscopy* by *in a microscope***
Slides were examined **in a microscope**
- ALERT Check that it is clear what **using** refers to
- Monkeys were **observed *using*** binoculars
- ERROR *Semantics*: as a participle ***does not*** define a verb, **it is unclear** what ***using*** refers to, the **monkeys** or the **observers**
so **this could be interpreted as**
the **monkeys were *using*** binoculars
or
the **observations *depended on*** the use of binoculars
- CORRECT [if the **former** is meant] by **rewriting the sentence** with an **adjectival phrase**
Monkeys ***using binoculars*** were observed
- CORRECT [if the **latter** is meant] by **replacing *using* by *through***
Monkeys were observed **through** binoculars
- replacing *using* with *by using***
Monkeys were observed **by using** binoculars
- replacing *using* with *by the use of***
Monkeys were observed **by the use of** binoculars
- New tribes have been identified **using** a new method
- ERROR *Semantics*: as a participle ***does not*** define a verb, **it is unclear** what ***using*** refers to, the **tribes** or the **method of identification**
so **this could be interpreted as**
the **new tribes were *using*** a new method
or
the **identification *depended on*** a new method

- CORRECT [if the **former** is meant] by
rewriting the sentence with an **adjectival phrase**
 New tribes **using a new method** have been identified
- CORRECT [if the **latter** is meant] by
replacing using with **by using**
 New tribes have been identified **by using** a new method
- replacing using** by **with the aid of**
 New tribes have been identified **with the aid of** a new method
- ALERT Check that **using** refers to a subject that is **capable of using something**
- Using** anti-androgens, it has been shown that epididymal function is androgen-dependent
- ERROR *Semantics:* unattached participle, the nearest noun it can complement is **it**, so **it is unclear who** used anti-androgens
- CORRECT [if **researchers** used anti-androgens] by
replacing using with **by using** or **by the use of**
By using/by the use of anti-androgens it has been shown that epididymal function is androgen-dependent
- replacing using** by **the use of** and **using** the **active voice**
The use of anti-androgens **has shown** that epididymal function is androgen-dependent
- The protein docked with LPS **using** Hex 6.1 software
- ERROR *Semantics:* **using** is a participle (verbal adjective) and the **protein** is the nearest noun it can complement
so this implies that the **protein** was using the software
- CORRECT [if the **software** was used to determine how the protein interacted with LPS] by
replacing using with **by the use of** and **using** the **passive voice**
 The protein **was shown** to dock with LPS **by the use of** Hex 6.1 software
- The location of the protein was determined by immune-detection techniques **using** a polyclonal antibody
- ERROR *Semantics:* **using** is a participle (verbal adjective) and **techniques** is the nearest noun it can complement
so this implies that the **techniques** were using a polyclonal antibody
- CORRECT [if the **antibodies** were used for immune-detection] by
replacing using by **involving the use of**
 The location of the protein was determined by immune-detection techniques **involving the use of** a polyclonal antibody
- replacing using** by **that involved the use of**
 The location of the protein was determined by immune-detection techniques **that involved the use of** a polyclonal antibody
- replacing using** by **in which... was used**
 The location of the protein was determined by immune-detection techniques **in which** a polyclonal antibody **was used**
- Structure-function studies **using** the recombinant protein showed that egg-binding did not involve carbohydrates
- ERROR *Semantics:* **using** is a participle (verbal adjective) and **studies** is the nearest noun it can complement
so this implies that the **studies** were using recombinant protein
- CORRECT [if the **recombinant protein** was used in the structure-function studies] by
replacing using by **involving the use of**
 Structure-function studies **involving the use of** the recombinant protein showed that egg-binding did not involve carbohydrates
- replacing using** by **that involved the use of**
 Structure-function studies **that involved the use of** the recombinant protein showed that egg-binding did not involve carbohydrates
- replacing using** by **in which... was used**
 Structure-function studies, **in which** the recombinant protein **was used**, showed that egg-binding did not involve carbohydrate
- Experiments *in vitro* **using** zona-intact rat eggs revealed that the polyclonal antibody blocked fertilisation
- ERROR *Semantics:* **using** is a participle (verbal adjective) and **experiments** is the nearest noun it can complement
so this implies that the **experiments** were using zona-intact eggs
- CORRECT [if the **zona-intact eggs** were used to demonstrate fertilisation] by
replacing using by **involving the use of**
 Experiments *in vitro* **involving the use of** zona-intact rat eggs revealed that the polyclonal antibody blocked fertilisation
- replacing using** by **that involved the use of**
 Experiments *in vitro* **that involved the use of** zona-intact rat eggs revealed that the polyclonal antibody blocked fertilisation
- replacing using** by **in which... was used**
 Experiments *in vitro* **in which** zona-intact rat eggs **were used** revealed that the polyclonal antibody blocked fertilisation
- Using** semen samples from healthy donors, non-apoptotic spermatozoa exhibited higher egg penetration rates than those of apoptotic spermatozoa
- ERROR *Semantics:* **using** is a participle (verbal adjective) and **non-apoptotic spermatozoa** is the nearest noun it can complement
so this implies that the **non-apoptotic spermatozoa** were using semen samples
- CORRECT [if the **semen samples** were used in the study] by
rewriting the sentence
 Non-apoptotic spermatozoa in semen **from healthy donors** exhibited higher egg penetration rates than those of apoptotic spermatozoa
- ALERT Check that **using** is not overused
- Purified protein was obtained **using** GST-bound resin affinity chromatography **using** the dissolved protein, from which the recombinant protein was obtained **using** GST-Bind Kits
- ERROR *Tautology:* as **using** is written **three times** in one sentence [each time **incorrectly**], **using** is **superfluous**
- CORRECT by **replacing using** by a **gerundial phrase**, a **preposition** and a **prepositional phrase**
 Purified protein was obtained **by using** GST-bound resin affinity chromatography **of** the dissolved protein, from which the recombinant protein was obtained **by the use of** GST-Bind Kits

Usually

as a matter of routine or common practice, customarily, normally, typically He **usually** checked the temperature of the incubator in the morning

See: [Certainty/uncertainty](#), [Would](#)

Utilisation

See: [Usage/use/utilisation](#)

Utilise

See: [Use/utilise](#)

Utility

See: [Useful/usefulness/utility](#)

V./vs

abbreviations for **versus** **v.** with **full stop** and **no** end letter
 vs with **end letter** and **no** full stop

See: [Abbreviation/acronym/contraction/initialism](#), [Than/versus](#), [Verses/versus](#)

Vague words

imprecise words, often used unnecessarily

may be

adjectives	bulk	instant	limited	major	normal	several						
adverbs	comparatively	extremely	fairly	much	quite							
nouns	issue	feature	level	majority	modality	moment	problem	proportion	study	system		
participles	achieved	affected	altered	conducted	done	effected	experienced					
pronouns	whatever											

should be replaced by (more **precise** or **relevant** words)

a health problem	(overweight/lethargic/smoking addiction)
a personality problem	(hyperactive/inattentive/antisocial)
fertility issues	(infertility)
health issues	(poor health)
the issue of sperm counts	(low sperm counts)
diagnostic modality	(diagnosis)
therapeutic modality	(therapy)
treatment modality	(treatment)

Validate

See: [Check/confirm/validate/verify](#)

Value

a magnitude, quantity or number

the **numerical** amount denoted by an algebraic **term**

The measured **quantity 24.7 mg** appears in a Table as the **value 24.7** under the heading of the units **mg**

NOTE *Vague word*: often used unnecessarily [**omit**]

See: [Counting/denominate/measurements numbers](#), [Parameter/quantity/value](#)

ALERT Check if **value** is necessary

Table 2 shows the melting temperature **values** of the samples

ERROR *Pleonasm*: a temperature **is a value**

CORRECT by **omitting value**

Table 2 shows the melting temperature of samples

After treatment the DFT index **value** was higher than that before

ERROR *Pleonasm*: an index **is a value**

CORRECT by **omitting value**

After treatment the DFT **index** was higher than that before

Vaporisation

See: [Evaporation/vaporisation](#)

Variability

a measure of the dispersion of measured values

See: [Accuracy/dispersion/precision](#), [Statistical variance](#), [Variance](#)

Variable

See: [Continuously/infinately variable](#), [Parameter/quantity/value](#)

Variance

the fact or quality of being different, divergent or inconsistent

Our results are at **variance** with those of Jones et al

in statistics the **sum** of the **squares** of the **differences (SOS)** from the mean of N values

See: [Accuracy/dispersion/precision](#), [Statistical variance](#)

Variation

See: [Accuracy/dispersion/precision](#), [Coefficient of correlation/determination/regression/variation](#), [Difference/discrepancy/variation](#)

Varies depending on the fluorescence intensity

Style: verbosity, can be shortened: replace by **varies with fluorescence intensity/depends on fluorescence intensity**

Variety is/are

See: [A/the variety is/are](#)

Variety of... is/are

See: [A/the variety of... is/are](#)

Various/varying

various	different, diverse each term being defined and constant does not mean certain, several	The effect of various concentrations of quinine on sperm volume was measured
varying	values that are not constant but change with time or conditions	The varying concentrations of inositol in the medium were recorded throughout the culture

ALERT Check that **varying** is the **intended word**

Spermatozoa were incubated with **varying** concentrations of H₂O₂

ERROR *Syntax*: unless some mixing device was used the concentrations **are fixed**

CORRECT [if **no** mixing device was used] by **replacing varying** by **various**
Spermatozoa were incubated with **various** concentrations of H₂O₂

Various different

Pleonasm: as **various** and **different** mean the same thing, one word is **superfluous**: use **one or the other**, not both

Vas deference/deferens

vas deferens the duct that conveys spermatozoa from the epididymis to the urethra

Venae-/vene-/veni-puncture

vene-/veni-puncture the puncture of a vein in order to withdraw a blood sample or for an intravenous injection

See: [Hypercorrection](#)

Venal/vindictive

venal	showing or motivated by susceptibility to bribery, corrupt	Students suffer from country's venal local education officers
vindictive	having or showing a strong or unreasoning desire for revenge	The criticism of his paper was both vindictive and personalised

See: [Ad hominem](#)

Verb/verb phrase/clause

verb	a content word	used to describe an action, state or occurrence
verb phrase	a content phrase	acting as a verb
verb clause	a simple sentence	a main clause, coordinate clause, a subject with predicate (containing a verb)

See: [Clauses](#), [Content/function words/phrases](#), [Verb/verbal phrases](#), [Sentences](#)

Verbal/verbals

verbal	relating to words
verbals	relating to non-finite verb forms

See: [Aural/oral/verbal/written](#), [Finite/non-finite verbs](#), [Verb/verbal phrases](#), [Verbs/verbals](#)

Verbal statement

Tautology: as a statement comprises **words**, and verbal means **relating to words**, **verbal** is **superfluous**: use **written statement**, **oral statement**

See: [Aural/oral/verbal/written](#)

Verbatim

See: [Paraphrase/quotation/verbatim](#)

Verbiage/verbose/verbosity

verbiage	noun	the use of too many words, prolixity, verbosity
verbose	adjective	tediously lengthy, using or containing too many words, prolix
verbosity	noun	the use of too many words, prolixity, verbiage

See: [Grammar/style](#), [Prolix/prolixity](#)

Verbs/verbals

verbs	content words	used to describe an action, state or occurrence
--------------	----------------------	---

	both finite and non-finite verbs		
<i>verbals</i>	a grammatical function <i>not</i> a word class		
	non-finite forms of a verb acting as		
	verbal nouns	infinitives	To correct grammar is what I do
		gerunds	Correcting grammar is my hobby
	verbal adjectives	participles	He is correcting grammar now
			These are the corrected manuscripts

See: [Content/function words/phrases](#), [Finite/non-finite verbs](#), [Infinitives](#), [Gerunds](#), [Participles](#), [Verb/verbal phrases](#), [Verbs](#)

Verify

See: [Check/confirm/validate/verify](#)

Verses/versus

<i>verses</i>	plural of verse	writing arranged with a metrical rhythm, typically having a rhyme		
		a group of lines that form a unit in a poem or song		
<i>versus</i>	implying opposition	in text	write in full	versus
		elsewhere	abbreviated	v. or vs

See: [Than/versus, V./vs](#)

Very

adjective	describing a noun	actual, identical, precise	They used the very programme that we used
adverb	describing an adjective	used for emphasis	The second experiment involved the very same samples as the first
	describing an adverb	to a high level	I'm very much looking forward to the lecture

NOTE Overused as *adverb*: often used unnecessarily [**omit**]

See: [Much/very](#)

Very... as/that

<i>as</i>	when very is used as an adverb defining an adjective	They used the very same method as we did
<i>that</i>	when very is used as an adjective defining a noun	They used the very method that we did

Very present

Oxymoron: as things are either **present** or not, it **needs no** qualification (**to a certain degree**) before it: use **present**

See: [Absolute adjectives](#), [Very](#)

Very unique

Oxymoron: as **unique** means **the only one** if its kind, it **needs no** qualification (**to a certain degree**) before it: use **unique**

See: [Absolute adjectives](#), [Very](#)

Vesicle/vesicular

<i>vesicle</i>	noun	a fluid-filled bladder, sac, cyst or vacuole	The male secondary sex organs include the seminal vesicles
<i>vesicular</i>	adjective	from the vesicles	Secretions from the seminal vesicles are vesicular secretions
		mediated by vesicles (vesicle-mediated)	The transfer of proteins from epididymosomes to cells by vesicular transport

Via (Latin)

See: [By way of/via](#)

Vice versa (Latin)

adverb	the opposite of what has been stated		
	with the main items in the preceding statement in the reverse order		
	They will first study physiology and then biochemistry or vice versa (or... first biochemistry then physiology)		
	Shall I come to your office or vice versa ? (or... will you come to my office?)		

See: [Respective/respectively](#)

ALERT Check that **vice versa** is used appropriately

Over-expression of HSP70 increases the tumorigenicity of cancer cells, and **vice versa**

ERROR *Semantics*: this implies that over-expression of **tumorigenicity** **can increase** HSP-70

CORRECT [if there is an **association** between tumorigenicity and HSP70 gene expression] by

rewriting the sentence and **being explicit**

Over-expression of HSP70 increases the tumorigenicity of cancer cells, and cancer cells express high levels of HSP70

Vide/vide infra/supra (Latin)

<i>vide</i>	see, consult	used as a text instruction to refer to a specified passage, book, author, etc., for further information
		The elephant does have an epididymis, vide the comments in Cooper(1986)
<i>vide infra</i>	see below	used to direct a reader to a later portion of text
		In one study (vide infra , pp. 104 et seq.), the results in the control group were consistent with ours
<i>vide supra</i>	see above	used to direct a reader to an earlier portion of text
		As already published (vide supra , pp. 99–101), such problems are unavoidable in these sorts of study

See: [cf./q.v.](#), [Ibid./id./op. cit.](#), [sc./viz.](#)

Viewpoint

See: [Perspective/point of view/standpoint/viewpoint](#)

Vindictive

See: [Venal/vindictive](#)

Virgule

See: [Slash/solidus](#)

Vis-à-vis (French)

about, in relation to, towards

See: [Plain English](#)

Visiting

non-finite forms of the verb to visit

a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Fused participles](#), [Gerunds/participles](#)

ALERT Check whether **visiting** is used as a **gerund** or a **participle**

It was due to me **visiting** the Primate Centre that I realised what research I wanted to do

ERROR *Semantics:* fused participle, the use of the **objective** case implies that the realisation **was due to me**

CORRECT [if the **visit** to the Centre brought the realisation] by

using the **genitive** and a **gerund**

It was due to **my visiting** the Primate Centre that I realised what research I wanted to do

Vital

important, essential

It is **vital** for us to get the 3.p.m. train

living

Sperm vitality is assessed by the use of a **vital** stain

Viz. (Latin)

See: [sc./viz.](#)

Voicing

See: [Pronunciation of phonemes](#), [Vowels/consonants](#)

Volume is/are

is when the entire volume is added **as one** aliquot

5 µl NaOH **was** then added to the solution just before boiling

are when the entire volume is added intermittently as **many** aliquots

5 µl NaOH **were** then added gradually to adjust the pH

See: [Aliquant/aliquot](#)

Vortexes/vortices

vortices the plural of **vortex**

Voxel

See: [Pixel/voxel](#)

Wait

adjective to stay where one is or delay action until a particular time

I shall **wait** until the anaesthetic has worn off and the animal is conscious

noun a period of waiting

We had a long **wait** for the post to arrive

See: [Can't wait](#)

Wait for/upon

wait for to delay action until something is ready

I **waited for** the technician to come

I **waited for** the cells to reach confluence

wait upon to act as an attendant to someone

At the end-of-term dinner the lecturers **waited upon** the students

Walking

non-finite forms of the verb to walk

a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Fused participles](#), [Gerunds/participles](#)

ALERT Check whether **walking** is used as a **gerund** or a **participle**

He did not like them **walking** along the road to the seminar

ERROR *Semantics:* fused participle, the **objective** case implies that he **did not like them**

CORRECT [if the fact of **walking along the road** was disliked] by

using the **genitive** and a **gerund**

He did not like **their walking** along the road to the seminar

Warrant

to justify or necessitate Study of the relationship between fluid osmolytes and sperm membrane transporters is **warranted**

ALERT Check when being **warranted** occurs

A closer investigation of the role of epididymal segmentation in gene regulation is **warranted in the future**

ERROR *Semantics:* the investigation is most likely warranted **now**, but can only be **tested** in the future

CORRECT by

omitting in the future

A closer investigation of the role of epididymal segmentation in gene regulation is **warranted**

rewriting the sentence

The role of epididymal segmentation in gene regulation **should be closely investigated in the future**

Was

See: [Has been/is/was](#)

Was/were

was	in a past-time main clause		
	past declarative	for the 1 st and 3 rd persons singular	I/he/she was there when he retired
	in a present-time open conditional clause (likely to be true)		
	past declarative	for the 1 st and 3 rd persons singular	If I/he/she was there when he retired, I've/he's/she's forgotten
were	in a past-time main clause		
	past declarative	for the 2 nd person singular	You were there when he retired
		all persons plural	We/you/they were there when he retired
	in a present-time remote conditional clause (unlikely to be true)		
	present subjunctive	all persons singular/plural	If I/you/he/she/we/they were there, there would be a photo

See: [Open/remote conditional clauses](#)

Was found to be

Style: verbosity, can be shortened: replace by **was**

Was the case

Style: verbosity, can be shortened: replace by **was true**

Washed semen/spermatozoa

spermatozoa **washed semen** implies **washed spermatozoa** and **washed seminal fluid**, but fluid **cannot** be **washed**, only **diluted**

Washing

non-finite forms of the verb to walk
a **participle** (verbal adjective) and **gerund** (verbal noun)

See: [Gerunds/participles](#), [Position of modifiers](#)

ALERT Check that **washing** refers to the **intended word**

After **washing**, the spermatozoa were resuspended in BWV to 5x10⁶/ml

ERROR *Syntax:* **washing** is a participle (verbal adjective) and **spermatozoa** is the nearest noun it can complement
so this implies that the **spermatozoa were doing** the washing

CORRECT [if a **technician** washed the spermatozoa] by

replacing washing by **several washes**

After **several washes**, the spermatozoa were resuspended in BWV to 5x10⁶/ml

rewriting the sentence with the **completed passive**

After the spermatozoa **were washed**, they were resuspended in BWV to 5x10⁶/ml

rewriting the sentence with the **continuous passive**

After **being washed**, the spermatozoa were resuspended in BWV to 5x10⁶/ml

Washing the cells, the **student** brought me the results

ERROR *Syntax:* **washing** is a participle (verbal adjective) and **student** is the nearest noun it can complement
so this implies that the **student was washing** the cells

CORRECT [if I was washing the cells when the results were brought to me] by

inserting as I was

As I was washing the cells, the student brought me the results

CORRECT [if the **student** was washing the cells before bringing the results] by

replacing washing by **after he had washed**

After he had washed the cells, the student brought me the results

Waste/wastes

waste	noun	unwanted or unusable material, substances or by-products waste is a mass noun, which has no plural the plural form takes a partitive construction	Much waste was generated in the process Large amounts of waste are generated by these processes
	verb	to use or expend carelessly, extravagantly or to no purpose	He wasted our funds on consumables rather than equipment
wastes	verb	3 rd person singular of the verb to waste	He wastes our time at every meeting

See: [Spend/waste](#)

WatchSee: [Look/watch](#)**Way**See: [Far/way](#), [The way how](#)**We**See: [One/we](#), [Us/we](#)**We should/would**See: [Should/would](#)**We wish to thank**Style: verbosity, can be shortened: replace by **we thank****Week by week**Style: verbosity, replace by **weekly/every week****Week-old/weeks old**

<i>week-old</i>	noun		She was a fifteen- year-old
	attributive adjective	hyphenated	Fifteen six- week-old animals were used
<i>weeks old</i>	predicative adjective	not hyphenated	The 15 animals used were six weeks old

See: [Adjectives](#)**Week's time**Pleonasm: as **week** implies time, **time** is *superfluous*: use **week****Weight**See: [Heavy/weight](#)**Weight is/are**

<i>is</i>	when the entire mass is added as one aliquot	5 mg was added
<i>are</i>	when the entire mass is added intermittently as many aliquots	5 mg were added in 1 mg portions

See: [Aliquant/aliquot](#)**Well**

adjective	in good health, free from illness advisable, sensible	After the operation he did not feel well It would be well to find out what this job entails
adverb	defining an adjective hyphenated a verb in a good or satisfactory way in a thorough manner very probably, in all likelihood	The well-trained team He wrote his first review quite well Add the protein slowly and mix well Epithelial sphere formation may well be the first sign of stem cell activation

ALERT Check which meaning of **well** is intended

That interrupting cellular homeostasis induces cancers has been well reviewed		
ERROR	<i>Semantics</i> : ambiguous, it is unclear which meaning of the adverb well is intended so this could be interpreted as	
	the topic was reviewed competently	[well meaning <i>in a satisfactory way</i>]
	or	
	the topic has been reviewed many times	[well meaning <i>in a thorough manner</i>]
CORRECT	[if the former is meant] by replacing well by thoroughly	
	That interrupting cellular homeostasis induces cancers has been thoroughly reviewed	
CORRECT	[if the latter is meant] by replacing well by often	
	That interrupting cellular homeostasis induces cancers It has been often reviewed	

WereSee: [Was/were](#)**Western blots**See: [Eastern/northern/Southern/western blots](#)**What/whatever/whatsoever**

<i>what</i>	interrogative pronoun	for direct questions	what or which person or thing	What do you mean?
	relative pronoun	for indirect statements	that which, the thing that	I don't know what you mean by that
<i>whatever</i>	adverb	at all, of any kind	for emphasis	They provided no help whatever
	determiner	emphasises lack of restriction	no matter what	Take whatever action is needed
			regardless of what	I shall support whatever decision he makes
	interrogative pronoun	more emphatic than what	expressing surprise	Whatever is the matter?
	relative pronoun	more emphatic than what	no matter what	Do whatever you like
			regardless of what	You have our support, whatever you decide

whatsoever adverb

more emphatic than **whatever**

Her comments were **no** use **whatsoever**

See: [And whatever](#), [How/what](#), [How/what/why](#)

What/which

what as interrogative pronoun used in a question answered by providing **vague** information

What time is it?

which interrogative pronoun used in a question answered by a providing **precise** information

What part of the country do you come from?

On **which** day will the seminar be?

In **which** journal did you see it?

What... is/are

is when **what** refers to **single** items meaning the thing that/that which

What surprises me **is** the cost of transport

are when **what** refers to **plural** items meaning the things that/those that

What we need **is** more grant money

What we need **are** more good ideas

The report excludes **what seem** to be good ideas

See: [Singular/plural verbs](#)

ALERT Check with **what** that the subject **agrees in number** with the verb

What the laboratory needs **are** more centrifuges

ERROR *Syntax*: the word **centrifuges** is **plural** but the **subject** of the sentence (what, meaning the thing that, that which) is **singular**

CORRECT by **replacing are** by **is**

What the laboratory needs **is** more centrifuges

What ever/whatever

See: [What/whatever/whatsoever](#)

Whatever is/are

is **Whatever happens**, your position is safe

What's more

Style: verbosity, layman terminology, colloquial speech, often used unnecessarily, replace by **furthermore/moreover** [or omit]

Whatsoever

See: [What/whatever/whatsoever](#)

When/whenever/whensoever

when adverb

at what time

how soon

in what circumstances

after which, and just then

although, whereas

at or during the time that

considering that

every time that, whenever

When did you last see him?

When can I see you?

When would that rule apply?

He had just finished writing **when** the phone rang

He's telling you now, **when** he should have said it long ago

I enjoyed physiology **when** I was at University

Why use confocal microscopy **when** flow cytometry is faster?

I don't know **when** he will call

He is always out **when** I call

Water boils **when** you heat it [a universal statement]

Differences were considered significant **when** $P < 0.05$

You can ask for help **whenever** you need it

Whenever are we going to arrive?

Whenever water is cooled below 0°C, it freezes [a universal statement]

whenever more emphatic than **when**

on the condition that

at whatever time

typically expressing surprise

on every occasion

whensoever formal form of **whenever**

See: [Universal statements](#), [When/whereupon](#), [When ever/whenever](#)

When/whereupon

when as conjunction

at any or every time that

The spermatozoa become motile **when** I added caffeine

whereupon conjunction

immediately after which

I added the caffeine to the spermatozoa, **whereupon** their motility increased

See: [As/when... by](#)

ALERT Check which meaning of **when** is intended

The calcium ionophore was added **when** hyperactivated motility occurred

ERROR *Semantics*: ambiguous, it is **unclear** whether **when** applies to the addition or the motility so **this could be interpreted as**

the ionophore was added **when** hyperactivated motility was **observed** [hyperactivation occurred **before** adding ionophore]

or

hyperactivated motility occurred only **after** ionophore addition [hyperactivation occurred **after** adding ionophore]

CORRECT [if the **former** is meant] by

replacing when by **after** and **occurred** by **first observed**

The calcium ionophore was added **after** hyperactivated motility was **first observed**

CORRECT [if the **latter** is meant] by

replacing when by **whereupon**

The calcium ionophore was added **whereupon** hyperactivated motility occurred

When compared with

See: [As/when compared with](#)

When ever/whenever

whenever at whatever time, every time that, on whatever occasion

See: [When/whenever/whensoever](#)

When it comes to

Style: verbosity, can be shortened: replace by **for** [or omit]

Whence

See: [Hence/thence/whence](#)

Whensoever

See: [When/whenever/whensoever](#)

Whereabouts

interrogative adverb where or approximately where
noun the place where someone or something is

Whereabouts do you come from?

His **whereabouts** remain unknown

Whereabouts is/are

whereabouts is considered a **singular and plural** noun On Thursday the student's **whereabouts was** unknown
His last known **whereabouts were** in London

Whereas... does not mean

the subordinating conjunction **whereas does not** introduce a noun clause

ALERT Check that **whereas does not** introduce a noun clause

Whereas the cells were stained with antibody **does not signify** that the protein is on the membrane

ERROR *Syntax*: the conjunction **whereas cannot** introduce a noun clause, so the verb **does not signify** has **no subject**

CORRECT by inserting a **subject** by

replacing **whereas** by **although** and inserting **that**

Although the cells were stained with antibody **that does not signify** that the protein is on the membrane

replacing **whereas** with **the fact that** or **that**

The fact that/That the cells were stained with antibody **does not signify** that the protein is on the membrane

Whereas/while

whereas subordinating conjunction, adverbial sense of contrast
for **contrasting** actions

governs a **clause** although, on the other hand

Nero fiddled **whereas I studied epididymal function**

while as conjunction

for **temporal** relationships

governs **adjectives** during the time that

phrases despite being

clauses although

during the time that

He was transferred to hospital **while asleep/sleeping**

The Dean, **while of a different opinion**, allowed him to make his point

While his persistence is admirable, he can refuse to accept advice

Nero fiddled **while Rome burned**

See: [A while/awhile](#), [While/whilst](#)

ALERT Check the sense when **while** is used

While samples were incubated with anti-AQP7 primary antibody at room temperature for 1 h, they were incubated with anti-AQP11 primary antibody at 4°C overnight

ERROR *Semantics*: One incubation is for **one** hour and during this time the other sample is incubated for **more than one** hour (overnight)

CORRECT [to emphasise the differences in time, temperature and antibody] by

replacing **while** by **whereas**

Whereas samples were incubated with anti-AQP7 primary antibody at room temperature for 1 h, those incubated with anti-AQP11 primary antibody at 4°C overnight

Whereby

because of which, by which He developed a program **whereby** the data directly appeared in a Youden plot

Wherewithal

the money or other means needed for a particular purpose They lacked the **wherewithal** to pay for a new osmometer

Where ever/wherever

relative adverb at, in or to whatever place
interrogative adverb more emphatic than **where** in questions
conjunction in every case when

Meet me **wherever** you like

Wherever can it be?

Use analytical grade reagents **wherever** possible

Whereupon

See: [When/whereupon](#)

Whether

See: [If/if... or/whether/whether... or/whether or not](#)

Whether... or

See: [If/if... or/whether/whether... or/whether or not](#)

Whether or not

See: [If/if... or/whether/whether... or/whether or not](#)

Which

subordinating conjunction	for indirect questions	governs a noun clause	I don't know which journal it was published in
interrogative pronoun	for direct questions	that need precise answers	Which journal was it published in?
relative pronoun	refers to	the immediate antecedent	He centrifuged the solution , which was turbid [the solution was turbid]
		an entire statement	The fee has gone up again , which is intolerable [The fact that the fee has gone up again is intolerable]

See: [And which](#), [Defining/non-defining adjectival clauses](#), [That/which/who](#), [What/which](#)

ALERT Check that **which** refers to the **intended noun**

Seeds were placed in a Petri dish, **which** then softened in water

ERROR *Semantics:* ambiguous, **which** is closest to **Petri dish**
so this implies that the **Petri dish** softened in water

CORRECT [if the **seeds** softened in water] by

replacing **which** by **and they**

Seeds were placed in a Petri dish, **and they** then softened in water

inverting the sentence so the **pronoun** is close to the **noun** it refers to

The Petri dish contained the **seeds**, **which** then softened in water

Qinghausu is the active compound isolated from the leaves of the **Chinese shrub** *Artemisia annua*, **which** has been shown to be a potent anti-malarial agent

ERROR *Semantics:* **which** is closest to the noun **shrub**

so this implies that the **shrub** is a potent anti-malarial agent

CORRECT [if the **compound** isolated from the shrub's leaves' is the potent agent] by

inverting the order of the first clause so the **pronoun** is close to the **noun** it refers to

The leaves of the Chinese shrub *Artemisia annua* produce an active compound, **Qinghausu**, **which** has been shown to be a potent anti-malarial agent

rewriting the sentence by using an **adjectival clause**

Qinghausu, **which has been shown to be a potent anti-malarial agent**, is the active compound isolated from the leaves of the Chinese shrub *Artemisia annua*

Which have been published previously regarding

Style: verbosity, can be shortened: replace by **on**

Which of the... is/are

is	when only one item is responsible	Which of the books is to be returned?	[only one book is to be returned]
		Which of the deleted genes is responsible?	[only one gene is responsible]
are	when more than one item is responsible	Which of the books are to be returned?	[more than one book is to be returned]
		Which of the deleted genes are responsible	[more than one gene responsible]

Which of the two... is/are

is	which of the two means which one of the two	It is difficult to say which of the two manuscripts is the better [of the two manuscripts it is difficult to say which one is the better]
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Whichever

used to emphasise a **lack of restriction** in selecting from a definite set of alternatives

determiner Choose **whichever** brand you prefer

pronoun Grants should increase annually in line with inflation or income, **whichever** is the higher

See: [Whichever is/are](#)

Whichever is/are

is You can send it as an email attachment or registered post, **whichever is** easier

While/whilst

while	conjunction	at the same time as, during the time that although, whereas, whilst	Nothing much changed while he was away While I wouldn't recommend this method, there are others who do
	noun	a period of time	We discussed the methodology for a while
	relative adverb	during which, whilst [more common than whilst]	Blood samples were taken while the animal was sedated
	verb	to pass time in a leisurely manner	He spent his time rewriting his manuscript to while away the we day
whilst	conjunction	during the time that, at the same time as whereas (indicating a contrast)	Michael runs the QC programme whilst Mary runs the laboratory
	relative adverb	during which, while [less common than while]	Students have a relaxed dress code, whilst professors like formal attire Blood samples were taken whilst the animal was sedated

See: [A/the while](#), [A while/awhile](#), [During/for/while](#), [Meantime/meanwhile](#), [Whereas/while](#), [While/whilst](#)

Whither

See: [Hither/thither/whither](#)

Who/who ever/whoever

who	what or which person	No matter who wrote that, it is incorrect
who ever	more emphatic than who in interrogatives	Who ever gave you that idea?
		Who would ever have thought that?
whoever	more emphatic than who	No matter whoever wrote that, it is incorrect

Who is who/whom

who	the verb to be is a linking verb that takes a nominative subject complement	In this picture I don't know who is who
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Whoever/whomever

whoever	nominative case more emphatic than who relative pronoun	as subject of a verb	I dedicate this thesis to whoever discovered the cytoplasmic droplet He can refuse to appoint whoever was elected by the students Whoever submitted this poster?
	interrogative pronoun	for direct questions	
whomever	objective case more emphatic than whom relative pronoun	as the object of a verb	Give it to whomever it may concern Whomever did you give the PDF to?
	interrogative pronoun	for direct questions	

See: [Who/who ever/whoever](#), [Who/whom](#), [Whoever is/are](#)

Whoever is/are

is	Whoever gets the highest marks get the poster prize
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Whole

See: [Neat/raw/whole](#)

Whole numbers

See: [Numbers](#)

Wholly

See: [Completely/wholly](#)

Whomever

See: [Whoever/whomever](#)

Who's/whose

who's	relative pronoun, nominative case	contraction of who is who has	Who's there? Who's taken this photo? Whose book is this?
whose	interrogative pronoun, genitive case		

See: [Abbreviation/acronym/contraction/initialism](#), [Who/whom](#)

Whose/of which

whose	possessive pronoun	for people for animals for things	The man whose vasa deferentia were sectioned The rabbit whose vasa efferentia were ligated The book whose cover was torn
of which	possessive pronoun phrase	for animals for things	The rabbit, the vasa efferentia of which were ligated The book, the cover of which was torn

See: [Pronouns](#)

Why

for what cause or reason			
interrogative pronoun	for direct questions		Why did he do it?
subordinating conjunction	for indirect questions	governs a noun clause	I don't know why he did it

See: [How/what/why](#), [Reason](#), [Reason why](#)

Will

a lexical verb			
for all persons, singular/plural	to use one's willpower to achieve something		He willed himself to remain calm
a modal auxiliary verb followed by a base infinitive			
for all persons, singular/plural	for a present habit or custom		She will keep calling me Professor
	for a possibility, a suggestion		She will help you [you are certain she will help]
	for determination, intention, resolve		I will come , no matter the weather
	for a command		You will do as you are told
for the 1 st person, singular/plural	for emphasis		I will do it today
	[when "I shall do it today" is challenged]		

in the 2nd/3rd person, singular/plural

in forming future tenses

He **will do** it tomorrowSee: [Auxiliary verbs](#), [Moods of verbs](#)**Will/would**

will for a present habit or custom
 for a possibility, a suggestion
 in direct speech simple future tense
 future perfect tense

would for a past habit or custom
 for a possibility, a suggestion
 in indirect speech future-in-the-past
 future perfect-in-the-past

She **will keep calling** me ProfessorShe **will help** you [more certain than **would**]He **will** do it tomorrowHe **will** have finished it by thenEvery day he **would read** his emails as soon as he got in the officeShe **would help** you [more hesitant than **will**]He said he **would** do it tomorrowHe said he **would** have finished it by thenSee: [Future tense of direct/indirect speech](#), [Shall/will](#), [Tenses of the declarative and conditional moods](#), [Will](#), [Would](#)**Winning**

non-finite forms of the verb to win

a **participle** (verbal adjective) and **gerund** (verbal noun)See: [Fused participles](#), [Gerunds/participles](#)**ALERT** Check whether **winning** is used as a **gerund** or a **participle**The professor told his students there was every chance of them **winning** the poster prize**ERROR** *Semantics*: fused participle, the **objective** case implies that **there was a chance of them****CORRECT** [if there was a chance **they would win**] byusing the **genitive** and a **gerund**The professor told his researchers there was every chance of **their winning** the poster prize**-wise**See: [Neologisms](#)**With**See: [By/with](#), [Plus/with](#)**With a view to**Style: verbosity, can be shortened: replace by **to****With each passing day**Style: verbosity, can be shortened: replace by **constantly****With effect from**Style: verbosity, can be shortened: replace by **from****With reference/regard/respect to**

as concerns, as regards

With reference to your letter of June 16th, we have requested an appointment with the Dean**With regard to** the publication costs, the lower rate will be chargedThe groups were similar **with respect to** age and abstinence timeStyle: verbosity, can be shortened: replace by **about/concerning/for**See: [As regards/as regards to](#), [Concerning](#), [In regard to/respect of](#), [Regarding/with regard to](#)**With regard to**See: [With reference/regard/respect to](#)**With respect to**See: [With reference/regard/respect to](#)**With the possible exception of**Style: verbosity, can be shortened: replace by **except/possibly****With the result that**Style: verbosity, can be shortened: replace by **so that**See: [And so/so/so that](#)**With the use of**See: [By/by the use of/by using/using](#)**Wittily**

adverb used to describe

verbs or verbal phrases

whole clauses

after the **verb**at the sentence **beginning**She **answered** his questions **wittily****Wittily**, she answered his questions[the **manner** of her jokey reply is described][it **was clever** of her to answer his questions]

Woe is I/me

woe is me **me is not a** linking verb **subject complement**
 but a lexical verb **indirect object** (to whom woe has come) [Woe **has come to me**]

Woman/women

See: [Human/man/Man/mankind/men](#)

Work/works

work	abstract noun	activity involving mental or physical effort done to achieve a result	
		work is a mass noun , which has no plural	His research work is on the epididymis
		the plural form takes a partitive construction	Such large amounts of work are rare
	verb	to be engaged in physical or mental activity to achieve a result	He works on epididymal transport mechanisms
		to function, especially properly (of a machine)	This type of osmometer works well
		to have the desired result or effect (of a plan)	His idea for estimating osmolality worked
works	concrete noun	the premises in which industrial processes are carried out	He lives close to the cement works
		works is a plural noun treated as singular	His produces posters at the print works , which is nearby
		the output of a particular author, composer or artist, regarded collectively	
		works is a plural count noun	The total works of Prof. Orgebin-Crist are priceless
	3 rd person singular form of the verb to work		She works every weekend

ALERT Check that **works** is needed

Previous **works have** investigated the role of AQP in sperm function, but only one has been conducted in boar spermatozoa

ERROR *Semantics:* **works** as a **plural** noun is the collective work of one author; here many authors are implied

CORRECT by **replacing works** by **work** and the **plural** by the **singular**

Previous **work has** investigated the role of AQP in sperm function, but only one has only been conducted in boar spermatozoa

Worse

See: [Adjectives](#)

Worth noting/to note

worth noting adjective followed by a **gerund not** an **infinitive** His comments are **worth noting**

Worth while/worth-while/worthwhile

worth while	predicative adjective	deserving, worth being done	These experiments are worth while
worthwhile	attributive adjective	deserving, worth being done	These worthwhile experiments should be funded
			These experiments are worthwhile

Worthy of/to

worthy of These issues are **worthy of** further consideration

Would

a **modal auxiliary verb** followed by a **base infinitive**

for all persons, singular/plural		
to wish to	I would point out that this is incorrect	
to be determined to, to resolve to	Despite being warned, she would go	
for a past habit or custom	Every day he would read his emails as soon as he got in the office	
for a possibility, a suggestion	She would help you [you consider it likely that she will]	
for the 2 nd /3 rd person, singular/plural		
for liking, preferring	They would like to submit their paper for publication in your journal	
	She would prefer the third option	
for reporting text including will	future-in-the-past	I said that she would attend today
		He said that he would write it today
	future perfect-in-the-past	They said that they would have finished by then

See: [Auxiliary verbs](#), [Future tense of direct/indirect speech](#), [Moods of verbs](#)

ALERT Check that the tense of only one verb (the auxiliary **or** main) is in the past

Had I been there I **would** have liked to have seen it

ERROR *Syntax:* both the **auxiliary** verb and **infinitive** are in the perfect tense **but only one needs to be**

CORRECT by **using** the **perfect tense** of the **infinitive**

Had I been there I would like **to have seen** it

auxiliary verb

Had I been there I **would have liked** to see it

Write about/on/to

about	something	I wrote about my new experiments
on	something	He wrote on the topic of epididymal evolution
to	someone	You wrote to the editor of J Fruitless Research

Written

See: [Aural/oral/verbal/written](#), [Spoken/written languages](#)

Wrong/wrongly

<i>wrong</i>	adjective	not correct or true, incorrect unjust, dishonest or immoral	He did the wrong thing It was wrong of him to do that What am I doing wrong ?
	adverb	incorrectly (informal)	
	noun	an unjust, dishonest or immoral act	The supervisor did me a great wrong
	verb	to act unjustly or dishonestly	The supervisor wronged me
<i>wrongly</i>	adverb	incorrectly (formal) in an unjust, dishonest or immoral way	The figures are wrongly calculated Those who admit acting wrongly was fined

Wry

See: [Awry/wry](#)

X-irradiation

See: [Irradiation/radiation](#)

X-/x-ray

<i>X-ray</i>	noun	X-rays were used in this study
<i>x-ray</i>	verb	The soft tissues were x-rayed

Yards

See: [Metre/yard](#)

Yaw

See: [Pitch/roll/yaw](#)

Year

people are born in their first year of life	when they are less than one year old
after their first birthday they	have completed their first year
	are one year old
	are in their second year

Year by year

Style: verbosity, can be shortened: replace by **yearly/every year**

Year-old/years old

<i>year-old</i>	noun		He was a ten- year-old
	attributive adjective	hyphenated	He was a ten- year-old boy
<i>years old</i>	predicative adjective	not hyphenated	The boy was ten years old

See: [Adjectives](#), [Age/years of age/years old](#), [Of old/older age](#)ALERT Check that **years is not** used with age

The average age of the men in the study was 45.9 **years old**
 ERROR *Tautology*: as **age** implies **years old**, one word is *superfluous*
 CORRECT by
 omitting **old**

The average age of the men in the study was 45.9 **years**
 rewriting *the sentence*

The men in the study were on average 45.9 **years old**

See: [Presence of hyphens](#)ALERT Check whether **hyphens** are needed

Until then the semen from only **19 year-old** Danish men had been investigated
 ERROR *Semantics*: this implies that the 19 men had an age of **one year**
 CORRECT [if an unspecified number of men had an **age of 19 years**] by
 inserting **a hyphen**

Until then the semen from only **19-year-old** Danish men had been investigated

Year's time

Pleonasm: as **year** implies time, **time** is *superfluous*: use **year**

Yes

See: [No/yes in agreements](#)

Yet

adverb	by now or then, up until the present or a specified or implied time from now until the future for a specified or implied period of time even now , still (used to emphasise increase or repetition) in spite of that, nevertheless	I have yet to do the immuno-precipitation I'll continue to work on the epididymis for some time yet He's on the seventh draft and yet he is still working on it Every week she gets worse and yet it could go on for years
conjunction	adversative, coordinating contrasts grammatical equivalents	but at the same time, but nevertheless [adjective yet adjective] [adverb yet adverb] [phrase yet phrase] The method is time-consuming yet cheap I work quickly yet accurately He was in hospital yet in good health

[clause **yet** clause]*Their comments were unwelcome yet their advice was useful*See: [But, Implied meanings of sentences](#)**Yet that**usually needs a parallel **that** preceding the **yet**The publication **that** was his third that year, **yet that** was his shortest, increased his Impact FactorSee: [Relative clauses, That clauses](#)**Yet which**usually needs a parallel **which** preceding the **yet**The publication, **which** was his third that year, **yet which** was not awarded a prize, was a citation classicSee: [Relative clauses, Which clauses](#)**Yet who**usually needs a parallel **who** preceding the **yet**The student, **who** was in his third year, **yet who** was thought to be leaving the University, decided to staySee: [Relative clauses](#)**You and I/me**See: [I/me, Woe is I/me](#)**Young**See: [Age/old/young](#)**Yours/your's****yours** substantive possessive pronoun This book is **yours****Yours faithfully/sincerely**

Yours faithfully	(formal)	you may not know the person	begins signed with a title	Dear Sir/Dear Madam Dr/Mr/Ms/Mrs XYZ
Yours sincerely	(less formal)	you know the person	begins signed with a given name ABC	Dear Dr/Mr/Ms/Mrs XYZ

Zero/zeros/zeros

zero	noun	the number 0, nought	Zero the balance before weighing each sample container She zeroes the balance weekly for calibration One million: written as the figure one with six zeros after it
	verb	to adjust an instrument to the value zero	
zeroes		the 3 rd person singular of the verb to zero	
zeros		the plural of zero	

See: [Decimal numerals/places/points](#), [Integers](#), [Mathematical comparators/operators](#), [Naught/nought](#), [Numbers](#), [Significant digits](#), [Tare/zero](#), [Zero](#)**Zona/zonae (Latin)**

zona	singular	Each egg has a surrounding zona pellucida
zonae	plural	The zonae pellucidae from several eggs were bisected for the hemi- zona test

See: [Greek/Latin plural and singular words](#), [Nouns as adjectives](#)**Zo-/zoo- (Greek)**

zo-	abbreviation of zoo- before a vowel	zoology
zoo-	relating to animals	zoogeography
	relating to spermatozoa	normo zoospermia

See: [Prefix list](#)**Zygote**See: [Gametogenesis](#)

Glossary of British Scientific English Grammar and Style

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LANGUAGE

Language/linguistics

language

- a structured **system of communication** conveyed through **speech, sign** or **writing**
 - the **spoken** language is produced by **articulate sounds** with the **vocal tract**
 - when **spoken** ‘**sign**’ (with ‘soft g’) and ‘**signature**’ (with ‘hard g’) **are not** obviously related
 - the **written** language is a **visual representations** of the **oral communication**
 - is based on a **script** and a **set of rules** regulating its use
 - is a reliable form of information **storage** and **transfer**
 - when **written** ‘**sign**’ and ‘**signature**’ are clearly seen to have similarities when written

human languages as considered to consist of two parts

- a **lexicon**
 - an **inventory of lexemes**
 - the **vocabulary** of a language or branch of knowledge (such as medical)
 - dictionaries** list **lexemes** alphabetically
- a **grammar**
 - a system of **rules** for the combination of lexemes into meaningful sentences

linguistics

the nature and structure of human language, includes topics on

speech sounds

- phonetics
 - the physical **production, reception** and **perception** of sounds
 - the study of **phones** (any speech sounds)
- phonology
 - the study of the abstract **sound system**
 - the study of **phonemes** (units of speech sounds)
- prosody
 - the role of **intonation, stress**, and **rhythm** of syllables and larger units of speech
 - the study of **syllables**

written words

- morphology
 - the **structure, formation** and **relationship of words** and their **parts**

tints	1	2	tint + s	[>1 tint]	1	3	/t/	/i/	/nts/		
cat	1	1	cat	[one furry mammal]	1	3	/k/	/æ/	/t/		
cats	1	2	cat + s	[>1 cat]	1	3	/k/	/æ/	/ts/		
cat's	1	2	cat + 's	[possession by 1 cat]	1	3	/k/	/æ/	/ts/		
cats'	1	3	cat + s + '	[possession by >1 cat]	1	3	/k/	/æ/	/ts/		
splits	1	1	the splits	[noun, a gymnastic move]	1	3	/spl/	/i/	/ts/		
		2	to split + s	[to separate, 3 rd person singular]	1	3	/spl/	/i/	/ts/		
touch	1	1	touch	[noun, a contact]	1	3	/t/	/ou/	/ch/		
		1	touch	[verb, to contact]	1	3	/t/	/ou/	/ch/		
touches	1	2	touch + es	[noun, >1 touch]	2	5	/t/	/ou/		/ch/	/i/ /z/
		2	touch + es	[verb, present 3 rd person singular]	2	5	/t/	/ou/		/ch/	/i/ /z/
fox	1	1	fox	[one bushy-tailed mammal]	1	3	/f/	/o/	/ks/		
foxes	1	2	fox + es	[>1 fox]	2	5	/f/	/o/		/ks/	/i/ /z/
sign	1	1	sign	[noun, a notice]	1	3	/s/	/ai/	/n/		
		1	sign	[verb, to write a name]	1	3	/s/	/ai/	/n/		
signature	1	1	signature	[a hand-written name]	3	7	s/	/i/	/g/	/n/ /ə/	/tʃ/ /ʊər/

See: [Phoneme and grapheme list](#), [Syllabification](#), [Syllables](#)

Phoneme and grapheme list

phonemes may be **voiced** or **unvoiced**

voicing is the **vibration** of the vocal folds **simultaneous with** the **articulation** of a consonant

the **International Phonetic Alphabet (IPA)**

was **developed** for the transcription of different **phones** (sounds)

is **used** for **phonemes** (vowel and consonant sounds)

it lists **graphemes** (symbols) representing phonemes

diacritics (accents)

prosodic marks (intonations)

comprise **single letters**

digraphs **more than one** letter making **one** sound

ch(ip) **sh**(ip) **(b)oa**(t) **(b)oo**(t)

split digraphs a final **e** lengthens the separated middle vowel

/a_e/	mane	/m/	/eɪ/	/n/	versus	man	/m/	/æ/	/n/
/e_e/	theme	/θ/	/i:/	/m/	versus	them	/θ/	/e/	/m/
/i_e/	dine	/d/	/aɪ/	/n/	versus	din	/d/	/ɪ/	/n/
/o_e/	hope	/h/	/oo/	/p/	versus	hop	/h/	/o/	/p/
/u_e/	cube	/k/	/ju:/	/b/	versus	cub	/k/	/ʌ/	/b/

phonemes **IPA** **examples (bold graphemes)**

vowels

short (voiced)

short a	/æ/	rat, plait
short e	/ɛ/	many, said, end, bread, heifer, leopard, friend, bury
short i	/ɪ/	aesthetic, England, igloo, sieve, women, busy, guild, gym
short o	/ɒ/	swan, honest, fox, orange, bought
short oo	/ʊ/	wolf, look, would, bush
short u	/ʌ/	monkey, blood, double, jug
short ow	/aʊ/	out, rout, south

short (unvoiced)

neutral	/ə/	about, pencil, cactus, augur
neutral	/ər/	dollar, better, letter, ladder, chauffeur, doctor, honour, centre

long (voiced)

long a	/eɪ/	bay, mate, maid, straight, gauge, pay, break, eight, weigh, foyer, filet, they
long e	/i:/	quay, be, meat, bee, deceive, people, lady, key, phoenix, grief, ski
long i	/aɪ/	aisle, height, spider, kite, pie, night, island, guy, sky, sty
long o	/oo/	beau, sew, open, moat, bone, toe, brooch, dough, sow
long oo	/u:/	shoe, mood, soon, shoot, wooed, glue
long u	/ju:/	screw, manoeuvre, who, group, through, blue, flute, fruit
long ow	/ow/	shout, bough, now
long oi	/ɔɪ/	join, boy, buoy
long y/u	/ju/	beauty, feud, queue, few, adieu, view, uniform, you, yule

R-controlled (voiced)

air	/ɛər/	chair, dare, prayer, pear, their, where
ar	/a:r/	bath, far, laugh, heart, sergeant
arr	/ær/	carry, married
awr	/ɔ:/	ball, war, sauce, taught, paw, board, poor, fork, fore, bought, four
ear	/ɪər/	hear, steer, here, tier
er	/ɛ:/	pearl, term, bird, journey, burn, fur, word, myrtle
err	/ɛr/	berry
ier	/ʊr/	courier, worrier
ire	/aɪər/	liar, fire
irr	/ɪr/	nearer, mirror
or	/ɔ:r/	warn, forth
orr	/ɒr/	orange, lore
our	/aʊər/	flour, flower
ur	/ɜ:r/	hearse, verse, purse, furry
ure	/ʊər/	tourist, cure, pure

urr	/ʌr/	worry, scurry
consonants (voiced*)		
single letters		
b*		big, rabbit
d*		dog, add, milled
f		fat, cliff, phone, enough, half, often
g*		go, egg, ghost, guest, prologue
h		had, who
k (ks)		cat, accent, Christmas, rack, loch, kite, folk, bouquet, queen (box)
l*		leg, well
m*		man, comb, summer, column, palm
n*		gnat, knee, mnemonic, net, winner, pneumatic
p		pat, apple
r*		run, rhyme, carry, write
s		cite, pace, psychology, sit, science, course, less, listen
t		dropped, top, Thomas, better
v*		of, Stephen, vet, five
w*		choir, quick, win
y*		onion, hallelujah, you
z*		his, phase, scissors, xerox, zip, craze, buzz
digraphs		
ch	/tʃ/	chip, switch, action, righteous, future
hw		who, why, what
j	/dʒ/*	edge, soldier, giraffe, wage, exaggerate, jet
ng	/ŋ/	ring, tongue
nk	/ŋk/	drink, think
ph*		phonetics
sh	/ʃ/	ocean, machine, fuchsia, special, sure, conscience, nauseous, shin, pension, issue, station
sh*	/zh/	marriage, measure, division, azure
th	/θ/	thin, thongs
th*	/ð/	that, leather
ts		splits
trigraphs		
nts		tints
spl*		splits
spr*		spring
str*		string
quadgraphs		
eigh		weight
ough		though

See: [Voicing](#)

LETTERS

Alphabet

a set of **letters** or **symbols** in a fixed order

letters represent the **basic set** of **speech sounds** of a language
any of the **symbols** of an alphabet

the **Roman** alphabet has **26** letters

Upper (lower) case from A (a) to Z (z)

A a B b C c D d E e F f G g H h I i J j K k L l M m
N n O o P p Q q R r S s T t U u V v W w X x Y y Z z

the **Greek** alphabet has **24** letters

Upper (lower) case from A (α) to Ω (ω)

A α alpha	B β beta	Γ γ gamma	Δ δ delta	E ε epsilon	Z ζ zeta	H η eta
Θ θ theta	I ι iota	K κ kappa	Λ λ lamda	M μ mu	N ν nu	Ξ ξ xi
O ο omicron	Π π pi	Ρ ρ rho	Σ σ sigma	T τ tau	Υ υ upsilon	Φ φ phi
X χ chi	Ψ ψ psi	Ω ω omega				

may be

lower case/UPPER CASE/normal/**bold**/underlined/*italicised*

IN **combination**

IN different *fonts*

symbols the **basic elements** in a system that combine to form **complex entities**

DNA and RNA alphabets has **4** symbols

for DNA the bases adenine (A), cytosine (C), guanine (G), thymine (T)

for RNA the bases adenine (A), cytosine (C), guanine (G), uracil (U)

NOTE the **use of formatting** is dictated by journal style

See: [Abbreviation/acronym/contraction/initialism](#), [Beta/Eszett](#), [Gene/protein symbol nomenclature](#), [Genus/species](#), [Lower/upper case](#), [Pronunciation of letters](#)

Lower/upper case

lower case	non-capital (small)	Latin letters	a, b, c... x, y, z
------------	---------------------	---------------	--------------------

	in polysyllables	final rodent	fin rod	fine road	not fin not rod				
	the following double consonant								
	may make a vowel short	flannel	hammer	horrid					
	[but not always]	animal	probable						
sounded	consonants or vowels								
	with pronunciation depending on								
	diacritics								
	signs written	above or below a consonant or vowel							
	indicate a difference in pronunciation	from unmarked or differently marked letters							
	accent	during pronunciation pitch is							
		raised				é	fiancée		
		lowered				è	caffè		
	cedilla	softens a hard consonant							
		[from 'c' as in 'clip' to 'c' as in 'face']				ç	façade		
	circumflex	lengthens a vowel sound							
		[from 'o' as in 'Tom' to 'o' as in 'oh']				ô	rôle		
	diphthong	with two vowel sounds							
		[changes from one to another]				æ	faeces		
						œ (ø)	foetal	foetid	oestrogen
	tilde	a more nasal sound							
		[like 'an' as in 'hang']				ã	São Paulo		
		[like 'ne' as in 'news']				ñ	Nuñez		
	umlaut	narrows the sound							
		[like 'oe' 'oa' 'ue']				ä	Käse		
						ö	Köln		
						ü	Müller	Münster	
	ring	elongates a vowel sound							
		[from 'a' as in 'cat' to 'ar' as in 'cart']				Å	Ångström		
	diaeresis								
	signs written	above a vowel							
	indicate that it is to be pronounced separately	[>1 syllable]							
	umlaut	elongates a vowel sound							
		[from 'ee' as in 'see' to 'ay' as in 'say']				ë	Brontë		
		[from 'i' as in 'hit' to 'ea' as in 'heat']				ï	naïve		
	diacritics and diaeresis are often								
	omitted from modern	British English	[faeces, foetal, foetid, oestrogen, naive, role]						
		American English	[feces, fetal, fetid, estrogen]						
	but retained in	Proper nouns	[Ångström, Brontë, Müller, Nuñez, Pöllänen, São Paulo]						

See: [Hypercorrection](#), [Phoneme and grapheme list](#), [Pronunciation of phonemes](#), [Pronunciation of words](#), [Spelling and semantics](#), [Vowels/consonants](#)

Pronunciation of phonemes

voicing	the vibration of the vocal folds simultaneous with the articulation of a consonant								
	vowel phonemes	are only	voiced						
	consonant phonemes	may be	voiced	b (bat)	d (do)	g (giddy)	v (vine)	z (zona)	
			unvoiced	p (pat)	t (to)	k (kiddy)	f (fine)	s (sonar)	

classification of sounds

reflects how they are formed in the mouth

stops (plosives)	with complete closure of the oral cavity								
unvoiced	p (p ig)	t (t op)	k (k at)						
voiced	b (b ig)	d (d og)	g (g ate)						
fricatives	frictional passage of expired breath through a narrowing in the vocal tract								
unvoiced	f (f an)	th (t hick)	s (s ip)	sh (sh are)				h (h at)	
voiced	v (v an)	th (t his)	z (z ip)	isu (l eisure)	asu (t reasure)				
affricates	a stop and its immediate release into a fricative								
unvoiced	ch (ch ip)	g (g erm)							
voiced	j (j olly)								
glides (semivowels)	vowel-like but used as consonants								
unvoiced	wh (w hile)								
voiced	w (w eed)	y (y ou)							
liquids	slight closure of the mouth with no friction and vowel-like prolonged sound l/r								
voiced	r (r ead)	l (l ock)							
nasals	resonance produced by airflow through the nose								
voiced	m (m eat)	n (n eat)	ng (r ing)						
flaps	a rapidly made stop consonant								
voiced	such as the t (B etty) as pronounced in American English								
laterals	by directing airflow around the sides of the tongue								
unvoiced	l (l isten)								

See: [Phoneme and grapheme list](#)

SYLLABLES & WORDS

Syllables

the **phonological** building blocks of words

units of organisation for a sequence of **speech sounds**

have only **one sound**

of at least **one phoneme**

an **obligatory vowel (V)** comprising its **nucleus (N)**

optional marginal elements of **consonants (C)**

before it [**onset (O)**] or after it [**coda (Co)**]

when present **Co** with **N** is termed a **rime/rhyme (R)**

	Syllable	1		2		3		letter sequence
		O	N	Co	O	N	Co	
closed initial syllables								
have a coda [may lack an open]								
monosyllabic words								
mice		/m/	/aɪ/	/s/				CVC
play		/pl/	/eɪ/	/y/				CVC
string		/str/	/ɪ/	/ng/				CVC
ice			/aɪ/	/s/				VC
open initial syllables								
lack a coda [may lack an open]								
monosyllabic words								
my		/m/	/aɪ/					CV
I			/aɪ/					V
disyllabic words								
telling		/t/	/e/	/ll/	/i/	/ng/		CV-CVC
fibre		/f/	/aɪ/	/b/	/er/			CV-CV
vowel		/v/	/oo/	/e/	/l/			CV-VC
ignite			/i/	/gn/	/aɪ/	/t/		V-CVC
trisyllabic words								
memory		/m/	/ɛ/	/m/	/ə/	/r/	/ɪ/	CV-CV-CV
stress can be on any syllable of polysyllabic words								
	1 st		2 nd	3 rd	4 th		5 th	
disyllabic	vow-el		ig-nite					
trisyllabic	mem-or-y		to-geth-er					
polysyllabic	inc-ub-at-or		an-at-om-y	te-le-vis-ion	un-con-ven-tio-nal		un-co-or-di-nat-ed	

See: [Lexemes/words/syllables/morphemes/phonemes/graphemes/letters](#), [Pronunciation of phonemes](#), [Syllabification](#)

Syllabification (syllabication)

the **separation** of **words** into **syllables**

basis of syllabification **differs** for **written** and **spoken** words

written words

used at the end of a line

if a word **does not fit** the line

and moving it to the next would **make the first line shorter** than the second

is a particular problem with URL

marked in the text in

orthography (conventional punctuation) by
the International Phonetic Alphabet (IPA) by
in typography (arranging type) by

a **hyphen**

[sɪl·la·ble]

a **full stop**

['sɪl.ə.b*ɪ]

a **space**

[sɪl la ble]

an **interpunct**

[sɪl·la·ble]

a **hyphenation point**

[sɪl·la·ble]

division according to **etymology** and **morphology** **not** phonetics

according to

formation

atmo-sphere

know-ledge

learn-ing

after

prefixes

extra-neous

non-partisan

post-partum

un-touchable

the **vowel**

espe-cial

fi-bre

ordi-nary

propo-sition

regu-lar

between

vowels

cha-os

double letters

bub-ble

begin-ning

refer-ring

but not if L

tell-ing

before

suffixes

untouch-able

decid-ed

treat-ed

but not if silent

name-d

the **consonant** preceding -le

bub-ble

em-blem

pur-ple

but not if CK

buck-le

pick-le

spoken words

a **following** syllable **open (O)** **attracts** the **preceding** syllable **coda (Co)** consonant clusters

bu-bble

(**not** bubbl-e, bubb-le, bub-ble)

i-gnite

(**not** ign-ite, ig-nite)

ra-ptor

(**not** rapt-or, rap-tor)

te-lling

(**not** tell-ing, tel-ling)

be-gi-nning

(**not** be-ginn-ing, be-gin-ning)

re-fe-rring

(**not** re-ferr-ing, re-fer-ring)

See: [Grammar/style](#), [Punctuation](#), [Word formation](#)

Pronunciation of syllables

stress	letters	sounds rhyme with	
acoustic	cou	coo	not cow
anti	ti	tea	not tie
apparatus	rat	rate	not rat
ate	at	bet	not bait
bisect	bi	buy	not bee
centenary	ten	teen	not ten

cervical	vic	like	not lick
composite	site	sit	not sight
data	da	day	not dark
decade	de	deck	not deal
derisive	ris	rice	not kiss
dilemma	di	kill	not die
dissect	dis	kiss	not dice
economic	ec	deck or equal	
genuine	ine	win	not wine
hectare	are	air	not are
hegemony	soft g	gem	not get
homogeneity	nei	nee	not nay
homogeneous	hom, gen	Tom, gene	not home, Jen
homosexual	hom	Tom	not home
Homo sapiens	hom	home	not Tom
inherent	her	here	not hair
longevity	soft g	gem	not get
medicine	bisyllabic	med-sin	not med-dee-sin
migraine	mi	me	not my
necessarily	soft c, nec	less	not niece
occurrence	cur	current	not cursive
precedence	soft c, prec	press	not priest
privacy	priv	river	not rival
private	priv	rival	not river
scenario	nar	car	not care
spontaneity	nei	nee	not nay
status	stat	state	not statistics
ton	ton	gun	
tonne	ton	gone	
vitamin	vit	fit	not fight
vital	vit	fight	not fit
zoology	zo	zoo	not zone

See: [Phoneme and grapheme list](#), [Phonetics/phonology](#), [Pronunciation and semantics](#)

Pronunciation of words

reflects the **stress** and **sounds** of the component syllables

stress the **emphasis** on a syllable in pronunciation

by making it louder/longer/higher in pitch
more distinctly articulated
or combinations

1st syllable Cánada

2nd syllable América

3rd syllable Massachúsetts

applied to **content** words (**not** function words)

stress on the syllables in **bold** type

adult	adversary	applicable	centrifugal	centripetal	comparable	conjugal	deficit
despicable	dispute	distribute	harass	harass	integral	intricacy	irreparable
irrevocable	kilometre	mandatory	preface	preferable	preview	reputable	research
review	temporarily						

the **stress** on **words** may **alter the meaning** of a sentence

I never said she stole my instruments	[someone else said it]
I never said she stole my instruments	[I would not imply such a thing]
I never said she stole my instruments	[I implied it]
I never said she stole my instruments	[someone else stole them]
I never said she stole my instruments	[she may have taken them by mistake]
I never said she stole my instruments	[they belonged to someone else]
I never said she stole my instruments	[she stole my instrument case]

See: [Content/function words/phrases](#), [Hetero-/homo-/graphs/-nyms/-phones](#), [Pronunciation of letters](#), [Spelling and semantics](#), [Syllables](#), [Zo-/zoo-](#)

Word structure

lexemes and **words** comprise **morphemes** contributing **meaning** to the word

independent morphemes are **basic** to the word

dependent morphemes are added by **affixation**

analysis involves **categorising** word parts as **word stems**, **bases** and **roots**

stem words word-parts **that remain** when **all inflectional** affixes have been removed

there is only **one** stem word

identified by removing

inflectional	affixes	plurals	untouchables	word stem
		possessives	touchable's	touchable
		comparatives	larger	large
		superlatives	smallest	small
		past participles	preapproved	preapprove
		present participles	justifying	justify
	verb forms		ran	run

pronoun forms		him, his me, my, mine	he I
base words	word-parts to which <i>any</i> affix (derivational/inflectional) can be attached there may be many base words identified by removing		
	derivational affixes	prefixes reread unreliable preponderance touchable unhelpful untouchable	word bases read reliable/rely ponderance/ponder touch helpful/help touchable/touch
	inflectional affixes	past participles responded present participles justifying derivational + inflectional affixes preapproved	respond justify preapprove/approve/approve/proved/prove
root words	word-parts that remain when <i>all</i> affixes (derivational/inflectional) have been removed there is only <i>one</i> root word (the lemma) one-root words identified by removing		
	derivational affixes	prefixes rewrite unforeseen touchable carefully kindness mindfulness suffixes replaced dissected cannulating	word roots write foreseen touch care kind mind place dissect cannulate
	inflectional affixes	prefixes + suffixes past participles present participles	
	two-root words formed by compounding	bathroom downfall popcorn carry the core meaning of the word	bath + room down + fall op + corn
word roots	are independent (free) roots stand-alone words are dependent (bound) roots cannot stand alone as words comprise a common group of letters one-root words with Greek or Latin origins	interrupt justify liberty respond similar electric/electrical/electricity/electrify/electron elect	root rupt jus liber spond sim
	with arbitrary sound/meaning pairing		
	two-root words with Greek or Latin origins	cardiovascular carnivore geography	cardio + vas [heart + vessel] carn + vor [flesh + devour] geo + graph [region + draw]

See: [Derivational/inflectional affixes](#), [Lexemes/words/syllables/morphemes/phonemes/graphemes/letters](#), [Word formation](#)

Word bases, stems and roots

word	base [accepts affixes]	stem [without inflections]	root [core meaning]
words with derivational affixes			
a prefix			
enslave	slave	enslave	slave
reread	read	reread	read
preponderance	ponderance/ponder	preponderance	ponder
unreliable	reliable/rely	unreliable	rely
a suffix			
driver	drive	driver	drive
breakable	break	breakable	break
electrical	electric	electrical	electric
electricity	electric	electricity	electric
fortunately	fortunate	fortunately	fortune
a prefix and suffix			
replayable	playable/replay/play	replayable	play
unfortunately	fortunately/unfortunate/fortunate	unfortunately	fortune
unhelpful	helpful/help	unhelpful	help
unhistorically	historically/historical	unhistorically	history
words with inflectional affixes			
a comparative or superlative			
cleverer	clever	clever	clever
smallest	small	small	small
a participle			
justifying	justify/just	justify	just
responded	respond	respond	respond

a plural			
drivers	driver/drive	driver	drive
untouchables	untouchable/touchables/touchable/touch	untouchable	touch
a possessive			
touchable's	touchable/touch	touchable	touch
untouchables'	untouchables/untouchable/touchables'/ touchables/touchable/touch	untouchable	touch
words with derivational and inflectional affixes			
a prefix and participle			
preapproved	preapprove/approved/approve	preapprove	approve

NOTE **all** word **roots** are **bases** but **not all** **bases** are **roots**.
most word **stems** are **bases** but **not all** **bases** are **stems**
a word **root** can be a **base** and a **stem**

See: [Derivational/inflectional affixes](#), [Word formation](#), [Word structure](#)

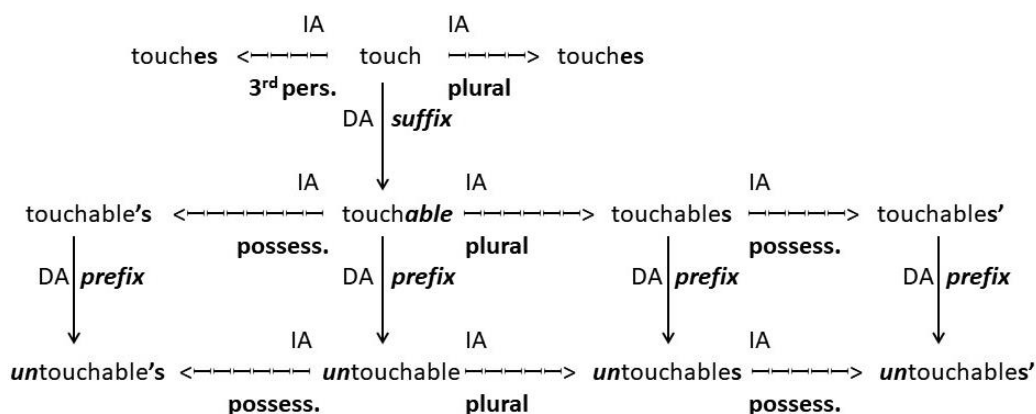
Word formation

from existing **words** by

conversion	changing part-of-speech category			
	[nouns] to verbs	to [elbow] aside	to [impact] events	
	[verbs] to nouns	a good [read]		
compounding	joining one word with another (retaining their meaning)			
	babysitter	blackboard	superwoman	
	combining two words in one (fusing their meaning: portmanteau words)			
	blog [web/ log]	brunch [breakfast / lunch]	guesstimate [guess / estimate]	
	edutainment [education / entertainment]		infotainment [information / entertainment]	
	metrosexual [metropolitan / heterosexual]		pixel [picture / element]	
	podcast [iPod / broadcast]		smog [smoke / fog]	
affixation	adding derivational or inflectional affixes to a base word several sequential words can be constructed by affixation			
	touch	as a verb	to contact gently	
		+ inflectional affix	3 rd person singular	touches
		as a noun	a gentle contact	
		+ inflectional affix	plural	touches
		+ derivational affix	suffix	touchable
		+ inflectional affix	plural	touchables
		+ inflectional affix	possessive	touchables'
		+ derivational affix	prefix	untouchable
		+ inflectional affix	plural	untouchables
		+ inflectional affix	possessive	untouchables'

the connection between the words are shown below where

horizontal connections are **inflectional affixes (IA)** making the **3rd person** (es), (**plurals** (s) or **possessives** ('s, s'))
vertical connections are **derivational affixes (DA)** adding a **suffix** (-able) or **prefix** (-un)



for **horizontal (IA)** connections

each precursor word is the **stem word** of the word formed from it

touch	is the stem of	touches	
touchable		touchable's	touchables
touchables		touchables'	
untouchable		untouchable's	untouchables
untouchables		untouchables'	

for **vertical (DA)** connections

each precursor word is the **base word** of the word formed from it

touch	is the base of	touchable
-------	-----------------------	-----------

touchable		untouchable
touchable's		untouchable's
touchables		untouchables
touchables'		untouchables'
for all derived words		
touch	is the root word of	touches
		touchable
		untouchable
		touchable's
		untouchable's
		touchables
		touchables'
		untouchables
		untouchables'

See: [Derivational/inflectional affixes](#), [Inflection of words](#), [Irregular/regular words](#)

Derivational/inflectional affixes (adfixes)

derivational affixes (morphemes)

derivational morphological rules relate one **lexeme** to **another lexeme**

prefixes letters affixed to the **beginning** of a word to change its meaning

are not separated by hyphens

do not alter the spelling of the word they precede

even when the same letter joins the prefix and word

may be separated by hyphens to aid pronunciation

to separate vowels

for multiple prefixes

need not be separated by hyphens when familiar

used to create the opposite of root words (antonyms)

antebellum

dysfunction

disservice

co-operate (**not** cooper-ate)

myo-inositol

pro- and anti-apoptotic

cooperation

disobey

irresponsible

antibiotic

enrich

dissimilar

intra-arterial

pretreatment

impossible

misunderstood

unattainable

disability

revert

unnerv

unnecessary

pre-treatment (**not** pret-reatment)

inapplicable

suffixes letters affixed to the **end** of a word to change its meaning, postfixes

are not separated by hyphens

may alter the spelling of the word it precedes

if it ends in **e** it is **lost**

but not if it alters pronunciation

if it ends in **l** it is **doubled**

if it ends in **y** it is changed to **i**

but not if the **y** follows a vowel

love

sense

age

like

manage

pronounce

sing

cancel

happy

beauty

merry

enjoy

lovable

sensible

ageing

likeable

manageable

pronounceable

singing

cancellation

happiness

beautiful

merriment

enjoyment

cancelled

cancelling

inflectional affixes (morphemes)

inflectional morphological rules relate one **lexeme** to **its own other forms**

adjectival affixes	comparative	[er]	high/higher
	superlatives	[est]	low/lowest
genitive affixes	of singular nouns	['s]	rat/rat's
	of plural nouns	[s']	rats/rats'
participial affixes	present	[ing]	cut/cutting
	past	[d]	centrifuge/centrifuged
		[ed]	inject/injected
		[t]	leap/leapt
noun affixes	plurals	[s]	rat/rats
		[es]	fox/foxes
		[en]	child/children
		[s]	dissect/dissects
verb affixes	3 rd person singular	[s]	do/does
		[es]	do/does

See: [Ad-/circum-/in-/inter-fixes](#), [Inflection of words](#), [Prefix list](#), [Suffix list](#)

Prefix list

a **derivational affix** letters affixed to the **beginning** of a word to change its meaning

Origin: G, Greek L, Latin OE, Old English OF, Old French

reflect added meaning

a-	G	not, without	asymptomatic	asyndeton	azoospermia
an-	(a-	before vowels)	anaemia	anejaculation	
ambi-	L	both ways	ambi-transitive	ambivalent	
amphi-	G	both	amphibian		
ante-	L	before	antebellum	antediluvian	
anti-	G	opposed to, against	antibiotics	anticlockwise	antiviral
auto-	G	self	autoantibodies	autoimmune	
bi-	L/G	doubly, two	bilateral	bisect	bisexual
circa-	from L	about	circadian		
circum-	L	about, round	circumference	circumjacent	
cis-	L	on this side of	cis-2-butene		
co-	L	joint, mutual, common	collateral	colocation	
com-	(co-	before vowels)	combine		
con-	(co-	before consonants)	concord		
contra-	L	against, opposite	contraception	contralateral	

col-	(co- before l)			collocate				
cor-	(co- before r)			corrode				
de-	L	down, away, remove		deacerate	degas			
demi-	OF	half, half-size		demigod	demi-semi-quaver			
dextro-	L	on or to the right		dextro-rotatory	dextrose (glucose)			
di-	G	twice, two double		disyllabic	disomy			
dis-	L/OF	negation		disadvantage	disinterested	dissatisfied		
		reversal		disaffirm				
		removal		disambiguate	disability	discriminate	dissect	
dys-	G	bad, difficult, impaired		dysfunction	dyslexia	dysplasia	dystrophy	
ef-	(ex- before f)			effeminate				
en-	G	within, inside		enclose				
em-	(en- before b, p)			embrace	emplacement			
ex-	L/G	out, upward, removal/out		exogenous				
extra-	L	outside, beyond		extraneous	extracellular	extravert		
for-	OE	prohibition, abstention		forbear	forbid	forgo	forget	
fore-	OE	in front, in advance,		forebears	forecast	forego	foremost	foreword
hemi-	G	half		hemi-castration	hemisphere	hemi-zona		
hetero-	G	other, different		heterosexual				
homo-	G	same		homosexual				
hyper-	G	over, beyond		hyperactivated				
hypo-	G	under		hypotonic				
iatro-	G	relating to a doctor		iatrogenic				
il-	(in- before l)			illustrate				
im-	(in- before p, m, b)			imbalance	imbibe	immure	impart	
in-	L	in, toward, within		induce				
in-	L	not		inanimate	indelible	infertile		
infra-	L	below		infradian	infrastructure			
inter-	OF	between, among		inter alia	international			
intra-	L	in the inside, within		intramuscular	intravenous			
intro-	L	to the inside		introduction	introvert			
ipsi-	L	in the same side		ipsilateral				
ir-	(in- before r)			irrelevant				
macro-	G	large		macrophage				
laevo-	L	on or to the left		laevo-rotatory	laevulose (fructose)			
mega-	G	very large		mega fauna	omega			
micro-	G	small		microscopic	omicron			
mid-	OE	middle		mid sentence				
mis-	OE	wrongly		miscalculate				
mono-	G	one, alone, single		monocular	monocyte	mononuclear		
multi-	L	many		multilingual				
non-	L	negation, absence		non-Gaussian				
noso-	G	disease		nosology	nosocomial			
oligo-	G	small number of units		oligarchy	oligomer	oligosaccharide		
omni-	L	all		omnidirectional	omnipotent			
paedo-	G	related to children		paedophile				
ped-	L	related to feet		pedicure				
peda-	G	related to teaching		pedagogue				
poly-	G	many		polyglot				
post-	L	after		post-mortem	post-operative			
pre-	L	before		pre-operative	prepubertal	pre-treatment		
pro-	L	facing		proceed				
		for, in place of		pronoun				
pseudo-	G	false, not genuine		pseudonym				
quad-	L	four		quadruple	quadriplegia			
quasi-	L	seemingly, but not so		quasi-adverbs	quasi-modal verbs			
re-	L	once more		reactivate				
		in return		react				
		opposition		repulsion				
		withdrawn		recluse				
semi-	L	half		semicircle				
		partly		semiconscious				
		penultimate		semi-final				
sesqui-	L	half again [one and a half]		sesqui-centenary (150 th anniversary)				
sub-	L	under		subscript				
suc-	(sub- before c)			success				
suf-	(sub- before f)			suffice				
sug-	(sub- before g)			suggestion				
sup-	(sub- before p)			supplicate	support			
sur-	(sub- before r)			surreptitious				
sus-	(sub- before c, p, t)			susceptible	suspend	sustain		
syn-	G	united		syncytium	synergism	synonym		
super-	L	above, over, beyond		superscript	superstition			
supra-	L	above		supra renal				
		beyond		supranational				
tetra-	G	four		tetravalent				

trans-	L	on the other side	trans-2-butene		
		across	transactivation		
		beyond	transnational		
		through	transform		
tri-	L,G	three	tricolour	trisomy	
ultra-	L	extreme, beyond	ultradian	ultrastructure	
un-	OE	absence, not	unacademic	uncertain	uninterested
uni-	L	one	unicellular	unilateral	universal
up-	OE	upward, higher	update		
vene-	G	into a vein	venepuncture		
zo-	zoo-	before a vowel	zoology		
zoo-	G	relating to animals	zoogeography		
		relating to spermatozoa	azoospermic		

See: [Ad-/circum-/in-/inter-fixes](#), [Greek/Latin numerical prefixes](#), [Prefixes for binary multipliers](#), [Prefixes for decimal multipliers](#), [Suffix list](#)

Suffix list

letters affixed to the **end** of a word to change its meaning (postfixes)

Origin:	ANF, Anglo-Norman French	F, French	G, Greek	L, Latin	OE, Old English	OF, Old French
inflexional suffixes		create parts of speech				
er	OE	comparative	faster		slower	
est	OE	superlative	fastest		slowest	
d, n	OE	past participles	proved		proven	
ed, en	OE	past participles	dissected		beholden	
ing	OE	present participles	proving		dissecting	
ing	OE	gerunds	hiding		dissecting	
s		plurals	rats		goats	
s		3 rd person singular	runs		centrifuges	
's		genitives	doctor's		Brahms's	
derivational suffixes		create new words				
-able	F/L	possible to be	fixable		repeatable	
-ed		past participle	cannulated		fixed	
-ette	OF	diminutive	cigarette		suffragette	
-ful		full of	joyful		plentiful	
-ion		the action of	fixation		reunion	
-less	OE	lacking	useless		worthless	
-like		similar to	life-like		sperm-like	
-ly		a characteristic	likely		lively	
		characterised by	courageously		outrageously	
-ment		the state of	enjoyment		excitement	
-ness	F/L	the quality of	happiness		kindness	
-nym	G	a word or name	demonym		synonym	
-ous	ANF/OF	full of	courageous		outrageous	
-penia	G	poverty	leukocytopenia		thrombocytopenia	

See: [Ad-/circum-/in-/inter-fixes](#), [Hypercorrection](#), [-nym](#), [Prefix list](#)

Back-formation

the seemingly logical construction of an *incorrect word from a related correct or *incorrect one incorrectly used when an **existing grammatically correct** word provides the **intended** meaning

back-formation	formed from/analogy	intended	
*abolishment	abolish	abolition	
*acclimate	*acclimated	acclimatise	
*acclimated	*acclimate	acclimatised	
*acquirement	acquire	acquisition	
*acrosomic	genetic	acrosomal	
*administrate	administration	administer	
*analysate	*analysisation	analyse	
*analysisation	analyse	analysis	
*annexate(d)	annexation	annex(ed)	
*applicate	application	apply	[when not meaning a 3D graph axis]
*centrifugate(d)	centrifugation	centrifuge(d)	
*cleavage(d)	cleavage	cleave(d)	
*codification	*codify	encoding	
*codif-y/-ied	*codification	encode(d)	
*condensate(d)	condensation	condense(d)	
*confluency	confluent	confluence	
*cytoplasmatic	cytoplasm	cytoplasmic	
*degradate(d)	degradation	degrade(d)	
*denaturate(d)	denaturation	denature(d)	
*denaturisation	*denaturise	denaturation	
*dependency	dependent	dependence	[when meaning contingent on, determined by]
*deproteinate(d)	*deproteinate	deproteinise(d)	
*destruct(ed)	destruction	destroy(ed)	
*dialysated	*dialysation	dialysed	
*dialysation	dialyse	dialysis	

*diminishment	diminish	diminution	
*disassociate(d)	associate	dissociate(d)	
*donator	donate	donor	
*excitate	excitation	excite	
*explore	exploration	explore	
*exposition	expose	exposure	[when meaning being exposed]
*filtrate(d)	filtration	filter(ed)	
*firstly	secondly	first	
*fixate(d)	fixation	fix(ed)	[when meaning the preservation of material]
*homogenous	homogenise	homogeneous	
*homogenate(d)	homogenate	homogenise(d)	
*inhalated	inhalation	inhaled	
*liquefaction	liquefy	liquefaction	
*liqueficate(d)	*liquefaction	liquef-y(-ied)	
*luminal	lumen	luminal	
*lysated	*lysis	lysed	
*lysation	*dialysation	lysis	
*manifestate	manifestation	manifest	
*mature(d)	maturation	mature(d)	
*metabolisation	metabolise	metabolism	
*normalcy	normal	normality	
*obtention	obtain	obtaining	
*phagocytotic	phagocytose	phagocytic	
*preventative	prevention	preventive	
*prolongate	prolongation	prolong	
*quantitation	*quantitate	quantification	
*quantitate(d)	*quantitation	quantif-y(-ied)	
*registrate(d)	registration	register(ed)	
*relevancy	relevant	relevance	
*residency	resident	residence	[when meaning accommodation]
*respirate(d)	respiration	respire(d)	
*semenal	semen	seminal	
*significative	signification	significance	
*sonificate(d)	*sonification	sonicate(d)	
*sonification	*sonificate	sonication	
*sonif-y(-ied)	*sonification	sonicate(d)	
*spermatogenetic	spermatogenesis	spermatogenic	
*spermatozoal	acrosomal	sperm	[when used as an adjunct]
*spermatozoan	protozoan	sperm	[when used as an adjunct]
*summarisation	to summarise	summary	
*sustainment	to sustain	sustenance	
*transcribed	transcript	transcribed	
*transformate(d)	transformation	transform(ed)	
*transgenic	*transgenesis	transgenic	
*undoubtedly	indubitably	undoubtedly	
*unequivocally	unequivocal	unequivocally	

See: [Abscissa/applicate/ordinate](#), [Dependence/dependency](#), [Exposition/exposure](#), [Fixated/fixed](#), [Hypercorrection](#), [Residence/residency](#), [Sperm/spermatozoal/spermatozoan](#)

Inflection of words

a change in the form of words			nouns	pronouns	lexical verbs	mood		tense	
according to their function by			case	number	person				
nouns	case	nominative	John	scientists	bull				
		genitive affixes	John's	scientists'	bovine				
	number	singular	rat	mouse					
		plural affixes	rats	mice					
pronouns	number		singular		plural	singular/plural			
	person		1 st 2 nd 3 rd		1 st 2 nd 3 rd	3 rd 3 rd	3 rd		
	case	nominative	I you he/she/it	we you they	who whoever	whom whomever	whosoever		
		objective	me you him/her/it	us you them	whose				
		possessive	my your his/her/its	our your their					
verbs	form					irregular		regular	
	tense					present	past	present	past
	mood	declarative	singular person	1 st	I	am	was	go	went
				2 nd	you	are	were	go	went
				3 rd	he/she/it	is	was	goes	went
			plural person	1 st /2 nd /3 rd	we/you/they	are	were	go	went
		subjunctive	singular person	1 st /2 nd /3 rd	I/you/he/she/it	be		go	
			plural person	1 st /2 nd /3 rd	we/you/they	be		go	
participles	present					being		going	
	past					been		gone	

See: [Derivational/inflectional affixes](#), [Direct/indirect objects](#), [Genitive \(possessive\) case](#), [Irregular/regular verbs](#), [Lexemes/words/syllables/morphemes/phonemes/graphemes/letters](#), [Nominative \(subject\) case](#), [Objective \(object\) case](#), [Singular/plural verbs](#)

Irregular/regular words

<i>irregular</i>	have idiosyncratic inflected forms	nouns	plurals	mice (not mouse + s)	children (not child + s)	
		verbs	past tense	brought (not bring + ed)	sang (not sing + ed)	wrote (not write + d)
<i>regular</i>	have rule-generated forms	nouns	plurals	books (book + s)	rats (rat + s)	
		verbs	past tense	centrifuged (centrifuge + d)		dissected (dissect + ed)

See: [Strong/weak verbs](#)

SPELLING & MEANING*Spelling*

the process of writing or naming the letters in a word

may depend on the country or region

(British English)

aesthetics

centre

colour

defence

offence

manoeuvre

realise

travelled

(American English)

esthetics

center

color

defense

offense

maneuver

realize

traveled

may depend on the pronunciation of

the full infinitive the final consonant when creating suffixes is

doubled when

it is monosyllabic

it is polysyllabic with a **short vowel** and **stress** is on the **last** syllable

fret

fretted

fretting

bestir

bestirred

bestirring

prefer

preferred

preferring

refer

referred

referring

label

labelled

labelling

level

levelled

levelling

parallel

paralleled

paralleling

the consonant is **L**

[but not always]

not doubled when

it is polysyllabic with a **short vowel** and **stress** on the **first** syllable

focus

focused

focusing

proffer

proffered

proffering

target

targeted

targeting

the last syllable is **long** [even if L]

conceal

concealed

concealing

desire

desired

desiring

desert

deserted

deserting

the consonant is preceded by a **consonant**

preceding vowels

c not ck

in polysyllabic words when

there is no **stress** on last syllable

the **i** is **not** stressed

the **c** is followed by **u**

comic

panic

scenic

particle

particular

ck not c

in polysyllabic words when

the **i** is stressed

the **ck** is **not** followed by **u**

fickle

ticket

lucky

ck alone

directly follows **short** vowels

in monosyllabic words

in polysyllabic words

with **stress** on the last syllable

brick

stack

attack

k alone

directly follows **long** vowels

in monosyllabic words

break

steak

q

always followed by **u** in native words

queen

quick

except in foreign words

Iraq

Qantas

double h

only occurs in

withheld

double j, k, q, w, x, y

never occurs

See: [Hetero-/homo-/graphs/-nyms/-phones](#), [Hypercorrection](#), [Plurals of nouns](#), [Pronunciation of letters](#), [Pronunciation of words](#), [Semantics](#)

Semantics

the components of a rule that defines the meaning of a morpheme, word, phrase, sentence

(**does not mean** haggling over exact definitions)

the **meaning of a word** can be indicated by

surrounding words

words can be **different parts of speech** depending on their position in sentence

touch

can be

a **noun**

(a gentle contact)

a **verb**

(to contact gently)

rat

can be

a **noun**

(a small rodent)

a **verb**

(to renege on a promise, inform on others)

untouchable

can be

a **noun**

(someone who may not be touched)

an **adjective**

(unable to be touched)

the part of speech is **indicated** by

preceding word

an **indefinite article** indicates a

noun

a touch

a rat

an untouchable

an **infinitive marker** indicates a

verb

to touch

to rat

following word

a **noun**

indicates an

adjective

untouchable animal

word structure

the presence of **inflectional affixes**

declension of nouns

indicating

plurals (**s, es, en**)

possession (**'s, s'**)

rats

touches

children

conjugation of verbs

indicating

present 3rd person singular (**s, es**)

past tense (**ed**)

progressive (**ing**)

rats

touches

ratted

touched

ratting

touching

the **meaning of related words**

			whether the same [homonyms]	or different [heteronyms]
reflects their spelling			whether the same [homographs]	or different [heterographs]
	pronunciation		whether the same [homophones]	or different [heterophones]
spelling	pronunciation	meaning	examples	
homographs	homophones	homonyms	mouth (of river/face)	
		heteronyms	calf (noun: animal/leg)	left (adjective/verb)
			rose (noun/verb)	row (noun/verb)
	heterophones	heteronyms	alternate (adjective/verb)	bow (noun/verb)
			invalid (adjective/noun)	lead (noun/verb)
			row (noun/verb)	sow (noun/verb)
heterographs	homophones	heteronyms	air/heir	allowed/aloud
			complement/compliment	current/current
			hoard/horde	knew/new
			pair/pare/pear	peak/peek/pique
			rose/rows	sew/sow
			tail/tale	their/there/they're
	heterophones	homonyms	close/shut	
		paronyms	wisdom/wise	childish/children
		synonyms	foreword/preface	diaper (U.S.)/nappy (UK)
				pole (noun: stick/axis end)
				skate (noun/verb)
				stalk (noun/verb)
				desert (noun/verb)
				entrance (noun/verb)
				minute (adjective/noun)
				number (adjective/noun)
				tear (noun: rip/eye lubricant)
				cite/sight/site
				cue/queue
				heal/heel
				hear/here
				knows/nose
				literal/littoral
				pore/pour
				rains/reigns/reins
				son/sun
				stationary/stationery
				to/too/two
				vain/vein

See: [Anto-/syno-nyms](#), [Hetero-/homo-/graphs/-nyms/-phones](#), [Hyper-/hypo-nyms](#), [Inflection of words](#), [Inflection processes](#), [Oronyms](#), [Paronyms](#), [Pronunciation and semantics](#)

Hetero-/homo-/graphs/-nyms/-phones

heterographs

words with **different spelling**

may have a **different meaning**

the **same pronunciation**

a **different pronunciation**

from different regions

from different sources

from the same source

[heteronyms]

[homophones]

[heterophones]

[synonyms]

[synonyms]

[paronyms]

new (adjective, not old)

vs

knew (verb, of knowledge)

diaper (U.S.)

vs

nappy (UK)

foreword

vs

preface

wisdom

vs

wise

heteronyms

words with **different meaning**

may have the **same spelling**

the **same pronunciation**

[homographs]

[homophones]

seminal (of semen)

vs

(of importance)

rose (verb, past tense of rise)

vs

(noun, a flower)

heterophones

words with **different pronunciation**

may have a **different meaning**

the **same spelling**

[heteronyms]

[homographs]

seminal (of semen)

vs

(of importance)

invalid (adjective, not valid)

vs

(noun, a disabled person)

homographs

words with the **same spelling**

may have a **different meaning**

the **same pronunciation**

a **different pronunciation**

[heteronyms]

[homophones]

[heterophones]

seminal (of semen)

vs

(of importance)

left (verb, past tense of leave)

vs

(adjective, a direction)

minute (adjective, small)

vs

(noun, a time period)

homonyms

words with the **same meaning**

may have the **same spelling**

the **same pronunciation**

a related word origin

[homographs]

[homophones]

mouth (noun, face orifice)

vs

(end of a river)

homophones

words with the **same pronunciation**

may have a **different meaning**

the **same spelling**

a **different spelling**

[heteronyms]

[homographs]

[heterographs]

seminal (of semen)

vs

(of importance)

rose (verb, past tense of rise)

vs

(noun, a flower)

new (adjective, not old)

vs

knew (verb, past tense of know)

See: [Semantics](#)

Spelling and semantics

when **words** are **pronounced** and **stressed** in the same [homophones] or similar way

spelling can be used to distinguish between related word meanings

different vowels and silent consonants

nouns with a **c**

verbs with an **s**

rain

rein

reign

advice

device

licence

practice

prophecy

advise

devise

license

practise

prophecy

Pronunciation and semantics

when **words** are **spelled the same** or **similarly**

pronunciation can be used to distinguish between parts of speech [heterophones]

part of speech

stress

letters

pronounced as in/rhymes with

noun

advice

ice

ice

verb

advise

ise

size

noun

advocate

cate

c't

verb

advocate

cate

kate

adjective

alternate

verb

alternate

noun

appropriate

ate

't

verb	appropriate	ate	ate
noun	bow (tied ribbon)		low
verb	bow (bend from waist)		how
adjective	consummate	ate	't
verb	consummate	ate	ate
noun	desert (dry)	des	dez
verb	desert (leave)	des	diz
noun	device	ice	ice
verb	devise	ise	size
noun	entrance		
verb	entrance		
noun	envelope	en	envy
verb	envelop	en	envy
adjective	invalid (not valid)		
noun	invalid (disabled person)		
noun	minute (time period)		min it
adjective	minute (very small)		my newt
verb	multiply	ply	plight
adverb	multiply	ply	plea
adjective	number (more numb)		summer
noun	number (a value)		slumber
noun	privacy	riv	river
adjective	private	riv	rival
noun	prophecy	cy	see
verb	prophesy	sy	sigh
noun	row (argument)		how
verb	row (paddle with oars)		low
adjective	seminal	sem	seem of the ejaculate
adjective	seminal	sem	gem of importance
noun	sow (female pig)		how
verb	sow (plant seeds)		so
noun	use		loose
verb	use		lose

when **words** are **spelled similarly**

stress can be used to distinguish between **parts of speech**

nouns	adjectives	verbs
allergy	allergic/allergenic	
alternation	alternate	alternate
analysis	analysed	analyse
application	applied	apply
appropriation	appropriate	appropriate
attribute	attributed	attribute
biology	biological	
cytology	cytological	
histology	histological	
morphology	morphological	
physiology	physiological	
consummation	consummate	consummate
contribution	contributed	contribute
distribution	distributed	distribute
invalid	invalid	invalidate
microscope	microscopic	
microscopy	microscopical	
morphometry	morphometric	
particle	particular/particulate	
product/produce	produced	produce
publication	published	publish
[but not always]		
mechanism		mechanise
mechanic	mechanical	

See: [Grammar/style](#), [Hetero-/homo-/graphs/-nyms/-phones](#), [Pronunciation of words](#)

Anto-/syno-nyms

antonyms	words with opposite meanings	
	often with affixes	irresponsible vs responsible
		misunderstood vs understood
synonyms	words with the same meaning [homonyms]	
	often of different	origin
		allow vs permit
		ought to vs should
	region	nappy (UK) vs diaper (U.S.)

See: [Semantics](#)

Demonyms

names of **natives** or **inhabitants** of a particular place

region	suffix								
continent	n	African	American	Asian	Australasian	Indian			
country	ese	Chinese	Japanese	Maltese	Portuguese				
	n	Australian	Indonesian						
	ian	Brazilian	Chilian	Italian					
	ish	British	Danish	English	Irish	Scottish	Spanish	Swedish	
	—	Argentine	French	German	Norwegian	Welsh			
state	—	Hongkonger	Tennessean						
city	-er	Londoner	New Yorker						
	—	Cantabrigian (Cambridge)		Glaswegian (Glasgow)		Liverpuddlian (Liverpool)			
		Mancunian (Manchester)		Oxonian (Oxford)		Readingensian (Reading)			

Eponyms

words that are derived from names	adjectives:	darwinism (scientist, Charles Darwin)	quixotic (book character, Don Quixote)
	nouns:	atlas (Greek mythology, Atlas)	Constantinople (Roman emperor, Constantine I)
	verbs:	boycott (Irish landlord agent, Captain Charles Boycott)	

Hyper-/hypo-nyms

hypernyms	words with a broad meaning a category	MAGI [male accessory gland infections]	
		include	prostatitis/vesiculitis/vesiculo-epididymitis
		colour	includes red
		3D-shape	includes a cube
hyponyms	words with a specific meaning a sub-category of hypernyms	prostatitis	is a MAGI [male accessory gland infections]
		red	is a colour
		a cube	is a 3D-shape

Oronyms

substitution of words with similar pronunciation			
generating a different but plausible meaning (and sometimes humorous utterance)			
eggcorns	giving a similar meaning	spoken:	eggcorn (acorn)
			old-timers' disease (Alzheimer's disease)
mondegreens	giving a different meaning	spoken:	Lady Mondegreen (laid him on the green)
			He'll dispose of it, or sew its seams (so it seems)
			Sick as hell disease (sickle cell)
			She usually sucks seeds (succeeds)
		written:	baited breath (bated)

See: [Malapropisms](#), [Puns](#), [Spoonerisms](#)

Paronyms

words with a similar meaning [homonyms]	
derived from the same source	childish/children
	wisdom/wise
formed by adaptation of a foreign word	preface/ <i>prefatio</i> (Latin)

See: [Semantics](#)

Spoonerisms

errors in speech where parts of words get switched			
giving a nonsensical (but sometimes humorous utterance)			
beginning letters giving words			
a different meaning	queer old dean	(dear old queen)	
	a blushing crow	(a crushing blow)	
	fighting a liar	(lighting a fire)	
	Is the bean dizzy?	(is the Dean busy?)	
	nosey little cook	(cosy little nook)	
middle vowels (Kniferisms, Forkerisms) giving words			
no new meaning	epifatymal did pad	(epididymal fat pad)	
	hypodeemic nerdle	(hypodermic needle)	
	Sir Stifford Crapps	(Sir Stafford Cripps)	
	Broadcorping Castration	(Broadcasting Corporation)	

See: [Malapropisms](#), [Oronyms](#), [Puns](#), [Spelling and semantics](#)

Malapropisms

the mistaken use of a valid word for an [intended word] with a similar sound [homophones]	
giving a nonsensical (but sometimes humorous utterance)	They comprehended (apprehended) two auspicious (suspicious) persons
	There are 35,000 electrical (electoral) votes
	He was a member of Alcoholics Unanimous (Anonymous)

See: [Hetero-/homo-/graphs/-nyms/-phones](#), [Oronyms](#), [Puns](#), [Spoonerisms](#)

Puns

word play exploiting **multiple meanings** or **similar sounds** of words

giving a **nonsensical** (but sometimes *plausible* and *humorous* utterance)

homophonic puns

word pairs that **sound alike** (*homophones*)

with **[different] meanings** (*heteronymic*)

written: Atheism is a **non-prophet** (*non-profit*) institution

spoken: You can **tune** a guitar, but you can't **tune a** (*tuna*) fish

homographic puns

words that are **spelled the same** (*homographs*)

with **[different] meanings** (*heteronymic*) and **sounds**

written: You can't **tuna** fish unless you play **bass**

[**bass** ('base': an instrument) vs **bass** ('mass': a fish)]

homonymic puns

words that are both **homographs** and **homophones**

with the **same spelling** and **pronunciation** but **[different] meanings** (*heteronymic*)

spoken: Being in politics is like playing golf: you are trapped in one bad **lie** after another
(**lie**: an **untruth** vs a **position of rest**)

We **dispense** with accuracy

(dispense: **prepare** medicine {we are accurate} vs **do away with** (we are inaccurate))

compound puns

contain **two or more puns**

with **similar pronunciation** but **[different] meanings** (*heteronymic*)

written: Why can one never starve in the desert? Because of all the **sand which is** there.

[**sand which is** vs **sandwiches**]

Who brought them? Noah sent **Ham**, and his descendants **mustered** and **bred**.

[**Ham, mustered, bred** vs **ham, mustard, bread**]

spoken: **piano** is not my **forte**

[**piano**: pianoforte 'the instrument' vs **forte**: as 'an activity in which one excels']

Where do mathematicians go a weekends? They go to a **Möbius strip club**!

[**Möbius-strip**: mathematical 1D-surface/**strip-club**: vice den]

See: [Hetero-/homo-/graphs/-nyms/-phones](#), [Malapropisms](#), [Oronyms](#), [Spelling and semantics](#), [Spoonerisms](#)

SPEECH

Parts of speech

comprise

words adjectives adverbs articles conjunctions verbs nouns prepositions pronouns

phrases exclamations interjections

in The student took the viscous sample and centrifuged it rapidly for an hour, and exclaimed, "Oh no! The centrifuge has been on all night!"

the **parts of speech** are

adjectives

viscous

adverb

rapidly

articles

an the

conjunction

and

prepositions

for

pronoun

it

lexical verbs

centrifuged

exclaimed

took

nouns

hour

sample

student

exclamation

The centrifuge has been on all night!

interjection

Oh no!

are categorised as

content words (lexical words, lexical morphemes, substantive categories, contentives)

have meaningful content

have specific meanings

are **stressed** more than function words

include **adjectives**

adverbs

lexical verbs (& participles)

nouns (& gerunds)

determiners (**this/that/these/those**)

negatives (**no/not**)

question words (**why/how/which/when**)

function words (structure words, grammatical words, grammatical functors, grammatical morphemes, function morphemes, form words)

have no meaningful content (empty words)

express a grammatical or structural relationship with other words

are **not** stressed unless for emphasis

include **adverbials**

articles (**a/an/the**)

conjunctions

linking verbs

modal auxiliary verbs (**be, do have**)

prepositions

personal pronouns **quantifiers**

in Unsurprisingly, the experienced scientist carefully cut through the connective tissue lying over the testis and expertly dissected a human epididymis into three regions.

the **content words** are

adjectives

experienced

lying

human

adverbs

unsurprisingly

carefully

expertly

determiners

three

lexical verbs

cut

dissected

nouns

scientist

connective tissue

testis

epididymis

regions

the **function words** are

conjunctions

and

determiners

the

a

prepositions

through

over

into

See: [Adjectives](#), [Adverbials](#), [Adverbs](#), [Conjunctions](#), [Content/function words/phrases](#), [Determiners](#), [Grammar/style](#), [Nouns](#), [Numbers in words/figures](#), [Parsing of sentences](#), [Prepositions](#), [Structure of sentences](#), [Verbs](#)

Simple/compound/complex parts of speech

simple

adjectives	of one word	A fertile marmoset
conjunctions	of one word	and as but yet
lists	and replaces last comma	I bought scissors, scalpels, forceps and magnifying glasses
	joined items listed + serial comma	Supplies were from Bausch and Lomb, and Merck, Sharp and Dome
objects	only one	The technician sharpens the scalpel
phrases	more than one word	rapidly progressing spermatozoa
possession	1 person, 1 item	John's book is on the table
prepositions	of one word	above at before behind
questions	of one main clause	Does she examine sperm motility?
sentences	of one main clause	We have submitted our manuscript to this journal.
subjects	only one with a singular verb	The technician sharpens the scissors

compound

adjectives	hyphenated	acrosome-reacted spermatozoa	in-depth analysis
conjunctions	> 1 word	as if as though	
nouns	non-hyphenated adjunct	acrosome reaction	
	hyphenated noun adjunct	blood-epididymis barrier	sperm-egg binding sperm-zona recognition
objects	more than one	The technician sharpens the scalpel and scissors	
possession	> 1 person, 1 possession	Here is Yeung and Cooper's manuscript	
	> 1 person, 2 possessions	Dr Yeung's and Dr Cooper's academic backgrounds differed	
questions	2 main clauses + conjunction	Did he withdraw the manuscript or was it rejected?	
sentences	2 main clauses + conjunction	Treatment reduced sperm vitality but sperm motility was unaffected.	
subjects	more than one with a plural verb	The student and technician sharpen the scissors	
verbs	> 1 word	to feel like	

complex

conjunctions	> 2 words	as soon as as well as insofar as so long as	
lists	clauses listed + serial comma	Jones collects cells, Yeung incubates them, and Cooper prepares media	
phrases	> 1 simple phrase	rapidly progressing, morphologically normal spermatozoa	
prepositions	simple prepositions + adjectives	(quasi-adverbs) according to contrary to irrespective of preparatory to	
questions	1 main + 1 subordinate clause	When you are culturing, do you change the medium every day?	
sentences	1 main + 1 subordinate clause	If I attend the meeting, she will accompany me	

Word modifiers

single **words, phrases** and **clauses** that modify other **words** (**adjectives, adverbs, nouns, pronouns, verbs**)

comprise	adjectives	modify nouns, pronouns		
	descriptive	adjunct nouns		Here is the culture room
		adjectives		This is an unusual epididymis
		adjective phrases	containing an adjective	This testis is extremely small
		adjectival phrases	acting as adjectives	
			prepositional phrases	Sit on the chairs near the door
			infinitive phrases	This is the message to remember
			participial phrases	He is the one looking over his glasses
				At least she is imbued with common sense
	non-descriptive	adjectival clauses		It was Yeichen who taught me about text hyperlinks
		determiners	articles	Take a mouse from the cage
			demonstrative pronouns	Remove the epididymis
			interrogative pronouns	Take that mouse
			possessive pronouns	Which mouse do you mean?
			quantifiers	This is my thesis
	adverbials	modify adjectives, adverbs, verbs		one professor had up to four students
		adverbs	single words	with adjective This is an extremely small organ
			with adverb He does it really quickly	
			with verb She dissects carefully	
		adverb phrases	containing an adverb	He writes very carefully
		adverbial phrases	acting as adverbs	
			prepositional phrases	Take the culture dishes on the top shelf
			infinitive phrases	Give me time to think about the problem
		adverbial clauses		He'll write all night until he finishes it

See: [Modifiers/modifier phrases/clauses](#), [Qualifiers/intensifiers](#)

Qualifiers/intensifiers

qualifiers (**degree** modifiers)

qualify (limit/weaken) meaning in a **negative** sense by

limiting extent	almost	always	just	only	rather	simply
lessening impact	barely	hardly	perhaps	slightly	somewhat	
suggesting happening less	infrequently	rarely	scarcely	seldom	sporadically	
suggesting low numbers	few	some				
creating doubt	apparently	doubtful	impossible	possibly	probably	undecidedly
being general	basically	commonly	essentially	generally	virtually	unlikely

intensifiers (**extent** modifiers)

intensify (strengthen/exaggerate) meaning in a **negative** sense by

negative intensifiers	at all	dangerously	definitely	ever again	never	seriously
positive sense by						
positive intensifiers	absolutely	completely	extraordinarily	especially	exceptionally	extremely
	greatly	highly	incredibly	particularly	phenomenally	strikingly
	totally	utterly	very			
suggesting happening more	commonly	frequently	often	repeatedly	usually	
suggesting high numbers	countless	many	most	mostly	numerous	various

See: [Modifiers/modifier phrases/clauses, Word modifiers](#)

Position of modifiers

relative to the modified **word**

before	pre-modifiers	adjective adverb	noun adjective verbal phrase	She is the best lecturer He is a somewhat intelligent student Expect him boldly to answer the questions	
after	post-modifiers	adverb verb verbal phrase clause	noun adverb verb verbal phrase clause	He speaks very eloquently The spermatozoa swim slowly Expect him to answer the questions boldly Put it here I think that you should do it now Don't wait to do it Tuesday Buy a microscope without a camera attachment Place the culture dish in the incubator	[being bold in answering at all] [answering in a bold fashion]
		noun prepositional phrase	clause noun clause		

misplaced modifiers

may be **next to the [wrong word]**

The secretary **almost found** fifty dollars in the account
The secretary found **almost fifty dollars** in the account
The technician cannulated **only epididymal tubules**
The technician **only cannulated** epididymal tubules
The student **almost failed** every test he took
The student failed **almost every** test he took

may be **too far** from the intended word

She wore a 3D device on **[her head] that was too large**
She wore on her head **[a 3D device] that was too large**
The patient was referred to **[the physician] with infertility**
[The patient] with infertility was referred to the physician

[implication]

[the secretary **did not find** \$50]
[the secretary found **less than \$50**]
[**no** cannulation of other structures]
[**no** dissection before cannulation]
[the student **did not fail** every test]
[the student **failed in most** of the tests]

[implication]

[her **head** was too large for the device]
[the **device** was too large for her head]
[the **doctor** was infertile]
[the **patient** was infertile]

dangling (hanging, unattached) modifiers

with **[irrelevant] subjects**

gerundial phrases **After reading** these papers, [Jones] comes across as very astute
Upon entering his office, [a skeleton] caught my eye
infinitive phrases **To be** first-class, [you] need a Level III sterile work bench
participial phrases **After washing and fixing**, [the slides] were stained
Taking the broad view, [the former Dean] did more harm than good
Having said that, [the question] remains unanswered
[Offspring] were born **six weeks after mating**
If properly installed, [you] should not be able to open the door
Based on the minister's statement, [I] should not expect an agreement

[implication]

[Jones read the papers]
[**the skeleton** entered the office]
[**you** want to be first-class]
[**the slides** were washing and fixing]
[**the Dean** took the broad view]
[**the question** said something]
[**the offspring** had mated]
[**you** are to be installed]
[I was based on the statement]

with **[no] subjects**

gerundial phrases **Driving** all night, [it] was time for a long sleep
Using an online calculator, means and standard deviations were calculated
participial phrases **After reviewing** the data, [it] was agreed it was poorly designed
Administered by the Society, [it] was only later the Unit became a University

[**who** did the driving?]
[**who** used the calculator?]
[**who** did the reviewing?]
[**what** did the Society administer?]

squinting modifiers

could apply to **words both [before] and [after] them**

The students who [performed surgery] **sometimes** [whistle in the lab.] [sometimes do surgery **or** whistle?]
do surgery: The students **who sometimes perform surgery** whistle in the lab.
whistle: **Sometimes**, the students who perform surgery **whistle in the lab.**
[Cycling up hills] **quickly** [strengthens your quadriceps] [cycling quickly **or** quickly strengthens?]
cycling: **Cycling up hills quickly** strengthens your quadriceps
strengthens: Cycling up hills **strengthens your quadriceps quickly**
[Taking time to think] **clearly** [improves your chances] [think clearly **or** clearly improve?]
thinking: Taking time **to think clearly** about the issue improves your chances
improving: Taking time to think about the issue **clearly improves your chances**
[Public speakers who pause] **briefly** [refocus their audience] [pause briefly **or** briefly refocus?]
pausing: Public speakers who **briefly pause** refocus their audience
refocusing: Public speakers who pause **refocus their audience briefly**

See: [Position of adverbs](#)

ALERT Check that there are no **dangling modifiers**

After **washing and fixing**, the slides were stained

ERROR *Semantics:* dangling present participles, the nearest noun they can define is **slides**
but **slides** are **insentient** and **cannot** wash and fix anything

CORRECT [if a **technician** did the staining] by
changing the **active** to the **passive**

After **being washed** and **fixed**, the slides were stained
providing a relevant **subject** for the participles to describe
 After **washing** and **fixing** the slides, **we** stained them

To be first-class, **you** need a Level III sterile work bench
 ERROR *Semantics*: dangling infinitive phrase, the nearest noun is **you**, which implies that **you** need to be first-class
 CORRECT [if the **laboratory** needs to be first class] by
providing a relevant **subject** for the participle to describe
To be first-class, **your laboratory needs** a Level III sterile work bench

After **reading** these papers on epididymal function, **Jones** comes across as very astute
 ERROR *Semantics*: dangling gerundial phrase, the nearest noun is **Jones**, which implies that **Jones** read these papers
 CORRECT [if the **reviewer** read the papers] by
providing a relevant **subject** for the participle to describe and by **changing** the **present** to the **past tense**
 After **reading** these papers on epididymal function, **I felt that Jones came** across as very astute

After **standing** in the incubator overnight, **we** removed the attached cells
 ERROR *Semantics*: dangling present participial phrase, the nearest noun it can define is **we**, which implies that **we** had been in the incubator
 CORRECT [if the culture **dish** was in the incubator] by
providing a relevant **subject** for the participle to describe and by **changing** the **active** to the **passive voice**
 After **standing** in the incubator overnight, **the attached cells were removed**

If properly **installed**, **you** should not be able to open the door without first pressing the release button
 ERROR *Semantics*: dangling past participle, the nearest pronoun is **you**, which implies that **you** were properly installed
 CORRECT [if the **door** is to be installed properly] by
providing a relevant **subject** for the participle to describe and by **changing** the **active** to the **passive voice**
 If properly installed, **the equipment's door** should not be able to **be opened** without the release button first **being pressed**
rewriting the sentence by using Plain English
 When properly installed the equipment's door can only be released by pressing the release button

ALERT Check that **gerunds** and **participles** have a subject

After **reviewing** the data, **it** was concluded that the experiment was poorly designed
 ERROR *Semantics*: unattached gerund, the nearest pronoun it can complement is **it**, so **it is unclear who** reviewed the data
 CORRECT [if the **reviewers** made the conclusion] by
providing a relevant **subject** for the gerund
 After **reviewing** the data, **we concluded** that the experiment was poorly designed

Administered initially by the Max Planck Society, **it** was not until 1980 that the University took the Institute over
 ERROR *Semantics*: unattached past participle, the nearest pronoun is **it**, but what **it refers to** is not given
 CORRECT [if the **Institute** was eventually taken over] by
providing a relevant **subject** for the participle
Administered initially by the Max Planck Society, **the Institute was not taken over by** the University until 1980

ALERT Check that **dangling modifiers** do not cause ambiguity

Okada et al implanted female mice with silastic implants before **caging**
 ERROR *Semantics*: ambiguous, dangling participle, the nearest noun is **Okada et al**, which implies that the **authors** were caged
 CORRECT [if the **mice** were to be caged] by
providing a relevant **subject** by **changing** the **active** to the **passive voice**
 Okada et al implanted female mice with silastic implants before **the animals were caged**

Before **the female mice were caged** Okada et al implanted them with silastic implants

The **compounds** were hard to crystallize, **resulting** in reduced yields
 ERROR *Semantics*: ambiguous, dangling present participle, the nearest noun is **compounds**
 but **compounds are insentient and cannot** reduce anything
 CORRECT [if the **difficulty** in crystallisation reduced the yield] by
providing a **noun** for the participle to define
 The compounds were hard to crystallize, **a fact resulting** in reduced yields
rewriting the sentence with a **noun** for the participle to define
Crystallisation of the compounds proved difficult, **resulting** in reduced yields
rewriting the sentence by replacing the participle with a noun and a verb.
 The **difficulty** in crystallization of the compounds **reduced** yields
rewriting the sentence by replacing the participle and inserting a conjunction
Because the compounds were hard to crystallise, **yields were low**
rewriting the sentence by using a phrasal clause
The compounds being hard to crystallise, yields were low

NOUNS & PRONOUNS

Nouns

- content words
 - words (other than pronouns) used
 - to identify any of a class of people, places or things (common noun)
 - to name a particular one of these (proper noun)

head words of noun phrases							
categorised by							
what they are							
common nouns	general classes of items						
abstract nouns	not physical concepts	degree	failure	thought			
concrete nouns	physical items	city	diploma	scientist			
compound nouns	more than one word, a noun preceded by a qualifier (attributive adjectives, noun adjuncts)						
adjunct (noun) + noun		culture room					
adjunct (compound adjective) + noun		culture-room technician					
proper nouns	particular people, places, things	Dr Barfield	Hong Kong				
what they represent							
count nouns	individual items	spermatozoon					
	have a plural	10 spermatozoa					
	used with fewer	fewer than 10 spermatozoa					
mass nouns	items considered en masse	sand	semen		water		
	used with less	less sand	less semen		less water		
collective nouns	used instead of a group of individuals	audience	class	club	committee		
		couple	family	government	staff	team	
their grammatical role							
adjunct nouns	used as attributive adjectives of a noun	acrosome reaction culture room					
	should not be used when adjectival forms are available						
	chromosomal abnormalities	not	chromosome abnormality	for abnormalities of the chromosomes			
	epididymal weight	not	epididymis weight	for the weight of the epididymis			
	prostatic cancer	not	prostate cancer	for cancer of the prostate			
	testicular tubules	not	testis tubules	for the tubules of the testis			
appositive nouns	in apposition to (expanding on) a noun	The scientist , Dr Cooper His wife , Dr Yeung					
head nouns	determine whether the verb is						
	singular	The scientist attends the meeting					
	plural	The scientists attend the meeting					
formation of nouns (nominalisation)							
from adjectives	fatality						
from verbs	cancellation						

See: [Abstract/concrete nouns](#), [Appositive nouns/phrases](#), [Cases of nouns and pronouns](#), [Collective nouns](#), [Common/proper nouns](#), [Count/mass nouns](#), [Head nouns](#), [Noun clauses](#), [Noun phrases](#), [Nouns as adjectives](#), [Position of adjectives](#), [Position of nouns](#), [Partitive constructions](#)

Common/proper nouns

common nouns	abstract, concrete, count or mass nouns						
	begin with no capital letter						
	a general class of people, places or things						
	scientists	cities	countries	laboratories	equipment		
proper nouns	concrete, count nouns						
	begin with a capital letter						
	names of particular persons, places, things						
	GMH Waites	Reading	United Kingdom	Institute for Reproductive Medicine	Nikon microscope		
	often used as proper adjectives as units or names of equipment, cells or organs						
	Ampere	Ångström	Becquerel	Bouin's	Caesarean	Caucasian	Celsius
	Coomassie	Coulomb	Cowper	Dalton	Darwinian	Euclidian	Fahrenheit
	Fallopian	Farad	Gaussian	Graafian	Gray	Henry	Hertz
	Joule	Kelvin	Leydig	Makler	Mendelian	Morgan	Müllerian
	Neubauer	Newton	Occidental	Ohm	Papanicolaou	Pascal	Pasteurisation
	Petri	Poisson	Ponceau	Sertoli	Siemen	Sievert	Southern
	Student's	Tesla	Venn	Volt	Watt	Weber	Wolffian
	Youden						
	with lower case initials for names of units (with initial upper case letters as their abbreviations)						
	ampere (A)	becquerel (Bq)	coulomb (C)	dalton (Da)	farad (F)	gray (Gy)	henry (H)
	hertz (Hz)	joule (J)	kelvin (K)	newton (N)	ohm (Ω)	pascal (Pa)	siemen (S)
	sievert (Sv)	tesla (T)	volt (V)	watt (W)	weber (Wb)		

See: [Abstract/concrete nouns](#), [Adjectives](#), [Count/mass nouns](#), [International system of units](#), [Lower/upper case](#), [Nouns](#), [Northern/Southern/western blots](#)

Count/mass nouns

count nouns	indivisible countable nouns				
	can be abstract, concrete or common nouns				
	refer to individual people, places or things				
	can be singular	one spermatozoon	one grain	one sample	one drop
	can take the indefinite article	a spermatozoon	a grain	a sample	a drop
	can be plural	spermatozoa	grains	samples	drops
	can be prefixed by cardinal numbers	100 spermatozoa	50 grains	four samples	ten drops
	the comparative requires fewer	fewer spermatozoa	fewer grains	fewer samples	fewer drops
	more	more spermatozoa	more grains	more samples	more drops
mass nouns	indivisible uncountable nouns				
	can be abstract, concrete or common nouns				

refer to a collection of individual units considered collectively

as **singular**

cannot take the indefinite article

without a **partitive** construction

cannot be plural

without a **partitive** construction

cannot be prefixed by cardinal numbers

without a **partitive** construction

the comparative requires **less**

the **partitive** construction **fewer**

more

sand

a grain of sand

grains of sand

50 grains of sand

less sand

fewer grains of sand

more grains of sand

semen

a sample of semen

samples of semen

four samples of semen

less semen

fewer samples of semen

more samples of semen

water

a drop of water

drops of water

ten drops of water

less water

fewer drops of water

more drops of water

See: [Abstract/concrete nouns](#), [Cardinal/ordinal numbers](#), [Common/proper nouns](#), [Nouns](#), [Partitive constructions](#)

Collective nouns

denote and used instead of a whole group of people/things

class

club

committee

couple

family

government

number

police

staff

team

most may take the **singular** or **plural**

singular

when the collective noun **itself** is the subject

plural

when what the collective noun **consists of** (a **plural** group) is the subject

This **committee is** of interest to us

The **committee are** now taking their seats

some only take the **plural**

The **police are** investigating the theft

See: [Nouns](#), [Partitive constructions](#), [Singular/plural nouns](#), [Singular/plural verbs](#)

Head nouns

as subject determine whether the following **verb** is **singular** or **plural**

with **nouns alone**

the **noun** is the head noun

a **singular** verb

for **singular** nouns alone

many nouns considered **together**

The **scientist attends** the meeting

Eggs and bacon is my favourite breakfast

plural verb

for **plural** nouns

many nouns considered **separately**

The **scientists attend** the meeting

Eggs and bacon are on my shopping list

with **nouns** and **quantifiers**

the **noun** is the head noun when the quantifier has

no article

lots [plural] of

(a large amount of)

mass nouns

with a **singular** verb

Lots of rubbish was discarded

an indefinite article

a lot [singular] of

(many)

plural nouns

with a **plural** verb

A lot of scientists were there

a number [singular] of

(some/several)

plural nouns

with a **plural** verb

A number of people remain here

the **quantifier** is the head noun when the quantifier has

a definite article

the number [singular] of

(the total of)

plural nouns

with a **singular** verb

The number of people is low

modified by

appositive nouns or **noun phrases**

See: [A/the lot of... is/are](#), [A/the number of... is/are](#), [Appositive nouns/phrases](#), [Nouns in apposition](#), [Partitive constructions](#), [Singular/plural verbs](#)

Singular/plural nouns

singular refers to a **single** noun that takes a **singular** verb form

singular forms of **plural** nouns

count concrete and abstract nouns

some **singular** nouns **have no plural**

[without a partitive construction]

epididymis

testis

idea

thought

behaviour

competence

contamination

co-operation

damage

debris

evidence

fauna

flora

incidence

information

interference

literature

nuisance

passage

prevalence

refuse

research

semen

software

staff

waste

work

singular partitive constructions

of **plural** count nouns lacking a singular form

[a pair of] forceps

[one of the] offspring

of **mass** nouns

[part of the] proceeds

[a piece of] work

some **singular** nouns **are treated as plural**

[a sample of] semen

police

statistics

plural refers to **more than one** item that takes a **plural** verb form

plural forms of **singular** nouns

count concrete and abstract nouns

some **plural** nouns **have no singular**

[without use of a partitive construction]

epididymides

testes

ideas

thoughts

dregs

forceps

glasses

news

offspring

police

proceeds

scissors

thanks

tongs

trousers

tweezers

plural partitive constructions

of **singular** count nouns lacking a plural form

of **mass** nouns

some **plural** nouns **are treated as singular**

[types of] behaviour

[sources of] contamination

[items of] news

[rounds of] passage

[samples of] semen

acoustics

agenda

dynamics

ethics

genetics

kinematics

kinetics

mathematics

mechanics

morphometrics

optics

stamina

NOTE some words and phrases can be both **singular** and **plural**
concrete nouns headquarters species

progeny

whereabouts

collective nouns	committee	government	politics	public	staff	team
partitive constructions	couple of	lot of	majority of	minority of	number of	
	percentage of	proportion of	pair of	variety of		

See: [Greek/Latin plural and singular words](#), [Mice/mouse/mouses/murine](#), [Partitive constructions](#), [Plurals of nouns](#), [Singular/plural verbs](#)

Plurals of nouns

formed from **simple singular nouns** by
inserting letters

s	to words ending in consonants to words ending in vowels	dwarf/dwarfs microscope/microscopes cargo/cargos halo/haloes potato/potatoes IOU/IOUs 1980/1980s	person/persons mongoose/mongoose memo/memos hero/heroes tomato/tomatoes	proof/proofs photo/photos mosquito/mosquitoes	roof/roofs zero/zeros	scalpel/scalpels zoo/zoos
	[but not always]					
	to upper case abbreviations to dates					
's	to words to lower case abbreviations to lower case letters	No i's, but's and and's lcd/lcd's Dot your i's and cross your t's				
es	to words ending in ch/sh/s/x	bench/benches octopus/octopuses larynx/larynxes halo/haloes potato/potatoes cargo/cargos the Adams/Adamses ox/oxen child/children	wish/wishes prospectus/prospectuses prefix/prefixes hero/heroes tomato/tomatoes memo/memos the Jones/Joneses	apparatus/apparatuses status/statuses index/indexes mosquito/mosquitoes		
	to words ending in o					
	[but not always]					
	to names ending in s					
en	to words ending in x					
ren	to words ending in d					
changing letters						
a to ae		cauda/caudae	formula/formulae	sequela/sequelae	zona/zonae	
a to e		man/men	woman/women			
	[but not always]	talisman/talismans				
e to ce		die/dice				
ex to ices		apex/apices	cortex/cortices	index/indices	vortex/vortices	
f to ves		dwarf/dwarves	half/halves	hoof/hooves	scarf/scarves	
	[but not always]	dwarf/dwarfs	proof/proofs	roof/roofs		
fe to ves		knife/knives	wife/wives			
is to es		analysis/analyses	basis/bases	crisis/crises	thesis/theses	
		hypothesis/hypotheses				
is to um		epididymis/epididymidum				
ix to ices		helix/helices				
on to a		criterion/criteria	oxymoron/oxymora	phenomenon/phenomena		
		spermatozoon/spermatozoa				
oo to ee		goose/geese	foot/feet	tooth/teeth		
	[but not always]	mongoose/mongoose				
s to des		epididymis/epididymides				
um to a		bacterium/bacteria	cilium/cilia	datum/data	forum/fora	
		flagellum/flagella	maximum/maxima	medium/media	minimum/minima	
		spectrum/spectra	symposium/symposia			
us to i		bacillus/bacilli	cactus/cacti	fungus/fungi	focus/foci	locus/loci
us to ora		corpus/corpora				
ut to ita		caput/capita				
x to ces		appendix/appendices	matrix/matrices			
x to ges		larynx/larynges	pharynx/pharynges			
y to ies		fly/flies	lady/ladies			
	[but not if preceded by a vowel]	key/keys	monkey/monkeys	tray/trays		
changing form		man/men	mouse/mice	person/people		
not changing form		aircraft	deer	means	premises	series
		sheep	species			
making the base element plural		daughter-in-law/daughters-in-law		Secretary of State/Secretaries of State		
alternative forms						
	with different meanings	appendix /appendixes (anatomical organ)		/appendices (literary appendix)		
		dwarf /dwarfs (dwarfism)		/dwarves (mythical being)		
		index /indexes (publication)		/indices (calculated)		
		mouse /mouses (computer device)		/mice (animals)		
		person /persons (formal)		/people (informal)		
	with the same meaning	bureau/bureaus/bureaux		larynx/larynxes/larynges		
		plateau/plateaus/plateaux		portmanteau/portmanteaus/portmanteaux		

See: [Singular/plural nouns](#)

Nouns as adjectives

singular word **premodifiers**, noun **adjuncts**, **attributive nouns**

often regarded as part of the following **noun**

acrosome reaction **culture room** **mutant mouse** **sterile work bench** **university graduate**
the **noun + noun** meaning depends on the context

acrosome reaction	the reaction occurring to the sperm acrosome
cell-culture room	a room where one performs cell culture
child prodigy	a child with prodigious talent
mutant mouse	a mouse expressing a mutated gene
PhD thesis	a thesis done for a PhD
prostate gland	a gland called the prostate
protein textbook	a textbook about proteins
semen volume	the volume of semen
sterile work bench	a work bench providing sterile conditions
student loans	the loaning of money to students
trial experiment	an experiment done as a trial
university graduate	a graduate from a university
may be problematic with certain nouns	
a child psychologist	(likely) a psychologist specialising in problems of children
(unlikely)	a psychologist who is a child
a lady doctor	(likely) a doctor who is a lady (female)
(possibly)	a doctor dealing with ladies' problems (a gynaecologist)
a student welfare officer	(likely) an officer responsible for the welfare of students
(unlikely)	a welfare officer who is a student
singular adjuncts often imply plural concepts	
a child psychologist	a psychologist specialising in problems of children
a lady doctor	a doctor dealing with ladies' problems (a gynaecologist)
a male changing room	a changing room for use by males (men/boys)
a mouse infestation	an infestation by mice
knockout mouse studies	investigations on knockout mice
after PCB exposure	after exposure to PCBs
a pilot suitcase	the type of suitcase used by pilots
the PRDX6 protein family	the family of PRDX6 proteins
sperm motility	the motility of spermatozoa
stem cell reprogramming	the reprogramming of stem cells
a surgeon gown	the type of gown worn by surgeons
but not when there could be confusion	
an admission questionnaire	a questionnaire relating to admissions (ideas : what people admit doing)
an admissions questionnaire	a questionnaire relating to admissions (people : why they should be admitted)
even when hyphenated	
a vitamin -deficient diet	a diet deficient in vitamins
a 10,000- dollar spectrophotometer	a spectrophotometer costing 10,000 dollars
a 500- millilitre container	a container holding 500 millilitres
a 9- centimetre diameter Petri dish	a Petri dish nine centimetres in diameter
a 4- well culture plate	a culture plate with four wells was used
a 36- year -old semen donor	a semen donor who was 36 years old
but not when there could be confusion	
a month -long review	a review lasting one month
a months -long review	a review lasting several months
often equivalent to/better written as plural genitive forms	
a children's psychologist	a psychologist specialising in problems of children
a ladies' doctor	a doctor dealing with ladies' problems (a gynaecologist)
a pilots' suitcase	the type of suitcase used by pilots
a students' welfare officer	an officer responsible for the welfare of students
a surgeons' gown	the type of gown worn by surgeons

See: [Adjectives](#), [Female/male](#), [Genitive \(possessive\) case](#), [Position of nouns](#), [Student/student's/students'](#), [Sucking/suckling](#), [Word modifiers](#)

ALERT Check that **nouns used as adjectives** are singular

Genes were examined at both the **proteins** and **RNAs levels**

ERROR *Syntax*: the nouns **protein** and **RNA** are used as **qualifiers** describing **level** (protein level, RNA level)

CORRECT by using **singular nouns** as **adjectives**

Genes were examined at both the **protein** and **RNA levels**

Maturation depends upon the changing **proteins** and **fluids composition**

ERROR *Syntax*: the nouns **protein** and **fluid** are used as **qualifiers** describing **composition** (protein composition, fluid composition)

CORRECT by using **singular nouns** as **adjectives**

Maturation depends on the changing **protein** and **fluid composition**

Nouns in apposition

the provision of [more information] about a **previous noun** by an

appositive **noun** Dr Cooper's **wife, Ching-Hei**, works in the same lab.

[the wife's name]

appositive **noun phrase** Dr CH Yeung, **Dr Cooper's wife**, works in the same lab.

[Yeung's relationship to Cooper]

His **hypothesis, sperm swelling reflects failed volume regulation**, was confirmed

[the nature of the hypothesis]

See: [Adjectival clauses/appositive phrases](#), [Appositive nouns/phrases](#), [Defining/non-defining appositive phrases](#)

Position of nouns

the **position of nouns** may **alter the meaning** of a sentence

negated nouns refer to the **noun immediately to their left**

	It is up to the Dean, not students , to formulate rules	[students do not formulate rules]
	It is up to the Dean to formulate rules, not students	[the Dean does not formulate students]
nouns used as adjuncts	the word immediately to their left is a modifier	
suckling as noun	This is a pig suckling	of the pig species
suckling as participle		[refers to the piglet]
of the transitive verb	This is a suckling pig	a pig providing milk
of the intransitive verb	This is a suckling pig	a pig receiving milk
		[refers to the sow]
		[refers to the piglet]

See: [Nouns as adjectives](#), [Sucking/suckling](#)

Pronouns

function words

elements of grammatical structure

are substitutes for antecedent **nouns/noun phrases** used to prevent undue repetition

comprise

demonstrative pronouns

this that these those one none

indefinite pronouns

all another few many one several
any anybody anyone anything each everybody
none nobody no one nothing some somebody everyone everything someone something

interrogative pronouns

nominative case

what which who

objective case

what whom

genitive case

whose

personal pronouns

nominative case

I you he she it we you they one

objective case

me you him her it us you them one

possessive pronouns

genitive case

adjectival (before the noun)

my your his her its our your their one's

substantive (after the verb)

mine yours his hers its ours yours theirs one's

reflexive/intensive pronouns

myself yourself himself herself itself ourselves yourselves themselves oneseif

reciprocal pronouns

nominative/objective case

each other one another

genitive case

each other's one another's

relative pronouns

nominative case

which who whoever that

objective case

which whom whomever that

genitive case

whose of which

in a **compound** sentence

the word substituted by a **pronoun** in a **main clause**

is the immediately preceding **noun**

The student went to the **Dean** and **he** was wearing jeans and a T-shirt (the Dean was wearing jeans and a T-shirt)

The Dean went to the **student** and **he** was wearing a suit and tie (the student was wearing a suit and tie)

in a **complex** sentence

the word substituted by a **pronoun** in the **main clause**

is the **subject** of the **subordinate** clause

If the **fibres** were breathed in by the rats, **they** would be trapped in the lungs (the **fibres** would be trapped)

If the **rats** breathed in the fibres, **they** would be trapped in the lungs (the **rats** would be trapped)

with **more than one meaningful pronoun**

the **order of pronouns**

must mirror the **order** of the associated **nouns**

The **drug** [1] does not enter the **cell** [2], **it** [1] killed **it** [2] (**it** [1]: **drug** [1]; **it** [2]: **cell** [2])

The **monolayers** [1] do not mix with the **epithelia** [2], **they** [1] support **them** [2] (**they** [1]: **monolayers** [1]; **them** [2]: **epithelia** [2])

See: [Active/passive voice](#), [Cases of nouns and pronouns](#), [Clauses](#), [Each other/one another](#), [Intensive/reflexive genitive pronouns](#), [Whose/of which](#)

ALERT Check that **pronouns** have a **noun** to refer to within a sentence

If the **rats** breathed in the **fibres**, **they** would be trapped in the lungs

ERROR *Semantics*: ambiguous, **it is unclear** what **they** refers to: the pronoun in a main clause refers to the **subject** in a preceding conditional clause
so this implies that the **rats** would be trapped in the lungs

CORRECT [if the **fibres** would be trapped in the lungs] by

inverting the order of the sentence by **changing the active** to the **passive**

If the **fibres** were breathed in by the rats, **they** would be trapped in the lungs

Apart from **its** involvement in cell division, **it** is known that the primary cilium coordinates cell signalling

ERROR *Semantics*: ambiguous, **it is unclear** what **its** refers to: the closest singular noun is cell signalling

CORRECT [if the **cilium** is meant] by

replacing it by **the primary cilium**

Apart from **its** involvement in cell division, the **primary cilium** is known to coordinate cell signalling

replacing its by **the cilium's** and **omitting that the primary cilium**

Apart from **the cilium's** involvement in cell division, **it** is known to coordinate cell signalling

To determine if **sperm volume** changed upon release from the epididymis, **they** were assessed every 15 min

ERROR *Semantics*: ambiguous, **it is unclear** what **they** refers to, as there is no plural noun

CORRECT [if **spermatozoa** is meant] by

replacing **they** by **spermatozoa**

To determine if sperm volume changed upon release from the epididymis, **spermatozoa** were assessed every 15 min

replacing **sperm** by **their** and **they** by **spermatozoa**

To determine if **their** volume changed upon release from the epididymis, **spermatozoa** were assessed every 15 min

CORRECT [if **sperm volume** is meant] by

replacing **they were** by **it was**

To determine if sperm volume changed upon release from the epididymis, **it was** assessed every 15 min

ALERT Check that it is clear **which of several nouns** a **single pronoun** refers to within a sentence

The screening method involves taking **cells** from the **embryo** in which the **chromosomes** are counted; only **those** with the correct number are then implanted

ERROR *Semantics*: ambiguous, **it is unclear** what **those** refers to, the **chromosomes** or **cells**, but neither is implantable

CORRECT [if the **embryo**, which can be implanted, is meant] by

rewriting **the sentence** by moving **embryos** closer to **those**

The screening method involves counting the chromosomes in cells taken from the **embryos**; only **those** with the correct number are then implanted

The epididymis expresses many **factors** employed by **tumour cells** to evade immunological **attack**, but a pro-tumour role for **them** is unlikely

ERROR *Semantics*: ambiguous, **it is unclear** what **them** refers to, the **factors** or the **tumour cells**

CORRECT [if the **factors** are meant] by

rewriting **the sentence** by inserting **commas** to isolate **tumour cells** in an adjectival clause

The epididymis expresses many factors, **which** are employed by tumour cells to evade immunological attack, but a pro-tumour role for **them** is unlikely

After reading his **student's** work, the **professor** said that **he** had not had enough time to finish it

ERROR *Semantics*: ambiguous, **it is unclear** what **he** refers to, the **professor** or the **student**

so **this could be interpreted as**

the **professor** had not had enough time to finish reading it

or

the **student** had not had enough time to finish writing it

CORRECT [if the **former** is meant] by

inserting a **reflexive pronoun**

After reading his student's work, the professor said that he **himself** had not had enough time to finish it

CORRECT [if the **latter** is meant] by

rewriting **the sentence** by replacing **his student's** by **the** and **he** by **his student**

After reading **the** work, the professor said that **his student** had not had enough time to finish it

The **males** detect their **mates** by **their** antennae

ERROR *Semantics*: ambiguous, **it is unclear** what the second **their** refers to, the **males** or the **mates**

so **this could be interpreted as**

the males examine **their mate's antennae** for purposes of identification

or

the males use **their own antennae** to detect their mates

CORRECT [if the **former** is meant] by

replacing **by** with **from**

The males detect their mates **from** their antennae

replacing **by** with **by recognising**

The males detect their mates **by recognising** their antennae

replacing **by** with **from the appearance of**

The males detect their mates **from the appearance of** their antennae

CORRECT [if the **latter** is meant] by

being **specific**

The males detect their mates **by using their own** antennae

The **examiner** reported the **student** to the **dean** because **he** was cheating

ERROR *Semantics*: ambiguous, **it is unclear** what **he** refers to, the **examiner**, the **student** or the **dean**

CORRECT [if the **1st** is meant] by

confirming the **intended noun** and **providing more information**

The examiner reported the student to the dean because **he, the examiner, saw the student** cheating

CORRECT [if the **2nd** is meant] by

confirming the **intended noun** and **providing more information**

The examiner reported the student to the dean because **he, the student, was observed** cheating

CORRECT [if the **3rd** is meant] by

confirming the **intended noun** and **providing more information**

The examiner reported the student to the dean because **he, the dean, had the power to admonish students**

The **acid** damaged the **lining** of the **reactor**, and **it** had to be replaced

ERROR *Semantics*: ambiguous, **it is unclear** what **it** refers to, the **acid**, the **lining** or the **reactor**

CORRECT [if the **1st** is meant] by

rewriting **the sentence** by moving **acid** closer to **which had to be replaced**

The lining of the reactor **was damaged** by the **acid, which had to be replaced**

CORRECT [if the **2nd** is meant] by

rewriting **the sentence** by moving **lining** closer to **which had to be replaced**

The acid damaged the reactor's **lining, which had to be replaced**

CORRECT [if the **3rd** is meant] by

rewriting **the sentence** by moving **reactor** closer to **which had to be replaced**
The acid damaged the lining of the **reactor**, **which had to be replaced**

ALERT Check that it is clear **which nouns several pronouns** refer to within a sentence

IDO has a dual action, both removing the amino acid tryptophan essential for **immune cell survival**, and converting it to **products** that are toxic to **them**

ERROR *Semantics:* ambiguous, **it is unclear** what **it** and **them** refer to, the closest to **it** is **survival** and to **them** is **products**

CORRECT [if **tryptophan** and **immune cells** are meant, respectively] by

rewriting **the sentence** by removing **pronouns**

IDO has a dual action, removing the **agent** essential for immune cell survival, **by** converting the amino acid **tryptophan** to products that are toxic to the **immune cells**

ALERT Check that there is **no difference in pronoun and noun number** within a sentence

This is one of only a few **papers** that have **its** own analytical paragraph

ERROR *Syntax:* **papers** is **3rd person plural** but **its** is **3rd person singular**

CORRECT by replacing **its** by **their**

This is one of only a few **papers** that have **their** own analytical paragraph

The original **cell** may die, but **its** genetic constitution survives in the cells of **their** clones

ERROR *Syntax:* **cell** is **3rd person singular** but **their** is **3rd person plural**

CORRECT by replacing **their** by **its**

The original **cell** may die, but **its** genetic constitution survives in the cells of **its** clones

The **team** has recently been playing **their** worst

ERROR *Syntax:* **team** is **3rd person singular** but **their** is **3rd person plural**

CORRECT by

replacing **their** by **its**

The **team** has recently been playing **its** worst

inserting **members** and replacing **has** by **have**

The team **members have** recently been playing **their** worst

ALERT Check that there is **no difference in pronoun and noun person** within a sentence

As any **science department**, **we** have had difficulty getting funds

ERROR *Syntax:* **science department** is **3rd person singular** but **we** is **1st person plural**

CORRECT by replacing **we** by **ours**

As any science department, **ours** has had difficulty getting funds

This decision will allow the **institute** to continue to pursue **our** long-term vision

ERROR *Syntax:* **the institute** is **3rd person singular** but **our** is **1st person plural**

CORRECT by

replacing **our** by **its**

This decision will allow the **institute** to continue to pursue **its** long-term vision

replacing **the institute** by **us**

This decision will allow **us** to continue to pursue **our** long-term vision

The **Institute** owes **its** high reputation to **our** high quality scientific staff

ERROR *Syntax:* **institute** is **3rd person singular** but **our** is **1st person plural**

CORRECT by

replacing **our** by **its**

The **Institute** owes **its** high reputation to **its** high quality scientific staff

rewriting **the sentence**

Our institute's high quality scientific staff **give** the Institute its high reputation

Indefinite third person pronouns

pronouns that denote an individual or a group of individuals

all	another	any	anybody	anyone	anything	both	each	either	every
everybody	everyone	everything	few	many	more	no one	nobody	none	nothing
one	several	some	somebody	someone	something				

are grammatically **singular**

referring to **one** of the relevant people concerned

used with **singular** verbs

Anybody/anyone is welcome to join debating society

Everybody/everyone is welcome to attend the opening ceremony

Nobody/no one is permitted to smoke in the laboratory

Somebody/someone from our lab. **is** going to get the prize this year

may be semantically **plural**

referring to **all** the relevant people concerned (notional agreement)

used with **plural** verbs

Anybody/anyone/everybody/everyone can go provided **they** pay **their** subscription

No one/nobody can attend unless **they** pay **their** own fare

Somebody/someone from your laboratory can visit provided **they** pay for **their** own meals

used where the sex of a person is **unknown** or **unclear**

rather than he or she, his or hers, himself or herself

(too long)

he/she, (s)he, his/hers, himself/herself, themselves

(difficult to pronounce, unclear if / means **and** or **or**)

use **they, their, herself, themselves**

See: ['He/she', 'Her/his', Notional agreement](#)

ALERT Check the meaning when **there** is used with both a *singular* and *plural* noun

ERROR This describes the attitude a **supervisor** has towards **their students** with **their** individual characteristics
Semantics: ambiguous, it is **unclear** to whom the second **their** refers
 so **this could be interpreted** as the individual characteristics of
 the students
 or
 the supervisor

CORRECT [if the former is meant] by

inserting a **comma** after **students**

This describes the attitude a supervisor has towards **their students**, with **their** individual characteristics

CORRECT [if the latter is meant] by

inserting **commas** around **with their individual characteristics** and **moving has towards their students** to the end

This describes the attitude a supervisor, with **their** individual characteristics, has towards **their students**

Who/whom

who **nominative case** (anyone **who**, the one **who**)

relative pronoun as **subject** of a **verb**

I gave it to the man **who has** a book

I gave it to the student **who** I was sure **was** the author

He is a student **who** I know **is** reliable [I know **he is** reliable]

interrogative pronoun for **direct** questions

Who gave the book to the man?

subordinating conjunction governs a **noun clause**

I don't know **who gave the book to the man** [indirect questions]

whom **objective case** (anyone **whom**, the one **whom**)

relative pronoun as **object** of a **verb**

He is a student **whom** I **know** to be reliable [know **him** to be reliable]

I congratulated the student **to whom** I was sure the prize **was given**

Don't you know **for whom** the prize is?

The student **above whom** we towered then is now towering over us

interrogative pronoun for **direct** questions

Whom did you give the book to?

To **whom** did you give the book?

NOTE **who** and **whom** are often confused, especially when a **clause** separates the subject or object from its verb
 they can be **distinguished** in the following sentences

a. I congratulated the student to **who** I was sure the prize was given

b. I gave it to the student **whom** I was sure was the author

by applying a sequential series of procedures

separating the clause by commas

a. I congratulated the student to **who, I was sure**, the prize was given

b. I gave it to the student **whom, I was sure**, was the author

removing the clause

a. I congratulated the student to **who** the prize was given

b. I gave it to the student **whom** was the author

checking whether **who** (nominative) is the subject of the verb or **whom** (objective) is the object of the verb

a. **who** is **nominative** but used here as the indirect **object** of the verb **given**

b. **whom** is **objective** but used here as the **subject** of the verb **was**

changing who for whom or *vice versa*, if necessary

a. I congratulated the student to **whom** the prize was given

b. I gave it to the student **who** was the author

replacing the omitted words

a. I congratulated the student to **whom** I was sure the prize was given

b. I gave it to the student **who** I was sure was the author

See: [And who, But who, Pronouns, That/which/who, Who/who ever/whoever, Whoever/whomever](#)

ALERT Check if **who** or **whom** is correct when the **subject** or **object** is separated from its verb by a **clause**

Who do you think you are talking to?

ERROR *Syntax*: **who** is **nominative** (subject case) but used here as the **object** (objective case) of the verb **talking to**

CORRECT by **replacing who** by **whom**

Whom do you think you are talking to? [to **whom** do you think you are talking?]

Whom do they think we are?

ERROR *Syntax*: **whom** is **objective** (object case) but used here as the **complement** (nominative case) of the verb **to be**

CORRECT by **replacing whom** by **who**

Who do they think we are?

CASES

Cases of nouns and pronouns

only detectable in pronouns that show **inflection** with gender and number

nominative case for the **subject** of a **verb**

She bought a book

objective case for the **direct object** of a mono-transitive **verb**

Her father **gave her** away as bride

for the **indirect object** of a di-transitive **verb**

I **gave him** a book

genitive case after a **preposition**
for the **owner** of something

I gave a book **to him**
This is **my** book; this is **hers**
That is **his** book, this is **mine**

See: [Genitive \(possessive\) case](#), [Inflection of words](#), [Nominative \(subject\) case](#), [Nouns](#), [Objective \(object\) case](#), [Pronouns](#)

Nominative (subject) case

for the **subject** of a sentence
a noun in **apposition** to the **subject**
for a **subject complement of linking verbs**

She is a good scientist
My **wife, a scientist**, works in my laboratory
The scientist who wrote that highly discussed article **was she**
It **was I** who wrote the paper

See: [Cases of nouns and pronouns](#), [Complements of verbs](#), [Linking verbs](#), [Nouns in apposition](#), [Pronouns](#), [I/me](#), [He/him](#), [Her/she](#), [Them/they](#), [Us/we](#)

Objective (object) case

formerly **accusative** case
shows **inflection** of pronouns with gender and number
for the **direct object** of a **verb**
preposition

After reading the CV, the professor **wanted me** to take the position
They received the manuscript **from them**
The manuscript was given **by her**
She employed people taller **than us**

for the **indirect object** (recipient) of an action
to whom something is done
follows a **preposition** whether written or implied

You gave a book **to him** (You gave **to him** a book)
He wished good luck **to her** (He wished **to her** good luck)
You gave **him** a book
He wished **her** good luck

for whom something is done
follows a **preposition** whether written or implied

You bought a book **for us** (You bought **for us** a book)
You bought **us** a book

See: [Active/passive voice](#), [Cases of nouns and pronouns](#), [I/me](#), [Inflection of words](#), [He/him](#), [Her/she](#), [Pronouns](#), [Than](#), [Them/they](#), [Us/we](#)

Genitive (possessive) case

single possessives formed by
using the **'of' phrase** for a **person**

This is a photograph **of the applicant** [one **showing** the applicant]
This is a portrait **of Jennifer** [one **depicting** her]
This is a photograph **of the department** [one **revealing** the building]
The cover **of the book** is torn [the cover **belongs to** the book]
He is a member **of the department** [the staff **includes** him]

an **object**

relationships
using **nominal possessives (inflection)**
inserting an **apostrophe and 's'**
for **simple possession**
one apostrophe
before 's' with the **singular**

John's book is on the table
The **book's** cover is torn
In one **week's** time
This is **Jen's** photo [one **owned/taken by** Jen]
A **woman's** magazine [one **belonging to one woman**]

abbreviations
The **BBC's** science programmes
The **Idc's** contribution to science
St. **James's** Palace
Brahms's Symphony No. 4

names **ending in 's'**
after a **linking verb**
after 's' with the **plural**

The camera **is** his **brother's**
The **brothers'** cameras are outside
The **books'** covers are torn
A **women's** magazine [one **written for women**]
The cameras **are** the **brothers'**

after a **linking verb**
for **compound possession**
one apostrophe if each has the **same** item
two apostrophes if each has a **different** item

Here is Yeung and **Cooper's** manuscript
This is **Cooper's** and **my** manuscript
Dr **Yeung's** and Dr **Cooper's** academic backgrounds differed

using **pronominal possessives**
with **possessive pronouns** (before a **noun**)
no apostrophes for a **person**
an **object**
people
objects

My/his/her book is on the table
Its cover is torn
Our/their cameras cannot be found
Their covers are torn

with **substantive pronouns** (after a **linking verb**)
no apostrophes for a **person**
people

The book **is** **mine/his/hers**
The camera **became** **hers**
The book and camera **are** **ours/theirs**

double possessives formed by
both the **'of' phrase** and **apostrophe and 's' (inflection)**
one apostrophe

<i>before 's' for</i>	a <i>person</i>	A portrait of Jennifer's	[one belonging to Jennifer]
<i>after 's' for</i>	an <i>object</i>	A photograph of the department's	[one donated to the department]
<i>no apostrophe for</i>	<i>people</i>	A photograph of the applicants'	[one belonging to the applicants]
	<i>relations</i>	He is a colleague of mine/ours	[I am/we are his colleague]
		She was a former student of his/theirs	[he was/they were her supervisor]

See: [Apostrophes](#), [Cases of nouns and pronouns](#), [Inflection of words](#), [Nouns as adjectives](#), [Pronouns](#)

ALERT Check that **genitives** are compared

This is obvious from comparison of **Ford's study** with **Cooper**

ERROR *Syntax*: this compares a study (**Ford's**) with a person (**Cooper**)

CORRECT by

inserting an *apostrophe* and *s*

This is obvious from comparison of Ford's study with Cooper's

inserting a *relative pronoun* and *preposition*

This is obvious from comparison of Ford's study with **that of** Cooper

VERBS

Types of verb

content words

used to describe an action, state or occurrence

forming the main part of the **predicate** of a sentence

head words of **verb phrases**

restriction of verbs

finite limited by

Person

I **develop**/he **develops** anti-cancer agents

Tense

I **shall develop**/I **have developed** anti-cancer agents

Mood

I **could**/he **would develop** anti-cancer agents

non-finite not limited by
participles

Mood, Person, Tense (verbals)

present

He is **developing** anti-cancer agents now

past

He **developed** the agents last year

as verbal adjectives

Developing cancers are dangerous

gerunds
infinitives

verbal nouns

The **developed** films are now ready for pick-up

full form with subordinator **to**
base form without subordinator **to**

Developing anti-cancer agents is necessary

He wants **to develop** anti-cancer agents

He will **develop** anti-cancer agents

predication of finite verbs

complete predication

the **verb** is the *simple predicate*

linking verbs

I **am** (I exist)

incomplete predication

with a *subject complement*

intransitive verbs

The infected tissue **smells**

with an *object*

for **linking** verbs

The animals **appeared infertile**

for **transitive** verbs

He **stained the slides**

objects of finite verbs

intransitive verbs

with *no object*

The spermatozoa **swim**

mono-transitive verbs

with *direct object*

The technician **fixed the microscope**

di-transitive verbs

with *direct* and *indirect* objects

I **gave the scissors** to the technician

complex transitive verbs

with *direct* object and *object complement*

We **found his behaviour** unacceptable

causative verbs

with *direct* object and *infinitive* drives a second verb

This **enabled her to enter** university

types of finite verbs

light verbs

with flexible meaning depending on the following *preposition*

To **go off** (to explode)

phrasal verbs

with (usually) a *preposition*

The enzyme **breaks down** its substrate

inseparable

have to be together

I have **run out** of medium

separable

may be together

She **put on** her lab. coat

may be separated

She **put** her lab. coat **on**

prepositional verbs

linked by a *preposition* to a *direct object*

linking verb

Don't **turn into** a glutton

lexical verb

The student **wrote to** the lecturer

sequential verbs

auxiliary verbs used with *non-finite* verb forms

He **may write** to the editor

strong verbs

irregular past tense forms

She **brought** me the manuscript

weak verbs

regular past tense forms

He **centrifuged** the sample

types of action of finite verbs

dynamic verbs

with qualities **capable** of change

deliberately, by choice

I **am being** argumentative

stative verbs

with qualities **incapable** of change

inert, with no choice

I **am** tall

functions of verbs

lexical

act alone as main verbs

with an *object*

I **cannulate** the epididymis

linking verbs

describe states of being

I **feel** ill

auxiliary (helping) verbs

act in combination of *infinitive* and *participles*

non-modal

as lexical verbs

with a *complement*

They **are students**

as auxiliary verb

with an *object*

She **has a hypothesis**

with a *participle*

They **are planning** to come

I **have said** it before

He **does know** the publication

modal

as an auxiliary verb

with a *base infinitive*

I **must do** it

with a *base infinitive*

I **ought to do** it

with a *base infinitive*

I **dare do** it

with a *full infinitive*

I **need to go** home

moods (modalities) of verbs

are categorised by what they express

conditional	for possible but uncertain actions
declarative (indicative)	for statements of fact
exclamatory	for strong emotions
imperative (emphatic)	for commands, orders
interrogative	for questions
subjunctive	for conditions, ideas, suppositions

persons and number of finite verbs

1st person	singular	I
	plural	we
2nd person	singular	you
	plural	[all of] you
3rd person	singular	he/she/it/one
	plural	they

regular verbs

have **consistent** forms of **conjugation**

the **first/third** person singular

differ with **-s** added to the **base infinitive** for the **third person** for

lexical verbs	speak/speaks	know/knows	write/writes
quasi-modal auxiliary	bend/bends	dissect/dissects	cannulate/cannulates
non-modal auxiliary	need/needs	dare/dares	use/uses
	let/lets		

irregular verbs

have **inconsistent** forms of **conjugation**

the **first/third** person singular

differ in form for the **third person** for

non-modal auxiliary	am/is	do/does	have/has	
do not differ for				
modal auxiliary	can/can will/will	could/could would/would	may/may must/must	might/might ought to/ought to

tenses of finite verbs

simple tenses	simple present
	simple past (past definite)
	simple future
	future-in-the-past (reported simple future)
perfect tenses (completed, 'perfected')	present perfect (perfect)
	past perfect (pluperfect)
	future perfect
	future perfect-in-the-past (reported future perfect)
progressive (continuous) tenses	present
	past (imperfect)
	future
perfect progressive (continuous) tenses	present
	past
	future

voices of verbs

active	the subject performs the action of the verb
passive	the object suffers the action of the verb
emphatic	the verb is emphasised by an auxiliary verb

formation of verbs

denominal verbs	created from nouns
-----------------	---------------------------

I **used to give** lectures

He **would** be surprised if she were to sterilise the bench
I **sterilise** the bench.

Don't tell me you didn't sterilise the bench again!

Sterilise the bench!

Did you sterilise the bench?

He'd be surprised if she **were** to sterilise the bench

I **sterilise** the bench

We **sterilise** the bench

You **sterilise** the bench

You **sterilise** the bench

He **sterilises** the bench

They **sterilise** the bench

write/writes

cannulate/cannulates

use/uses

have/has

I **sterilise** the bench **every day**

I **sterilised** the bench **yesterday**

I **shall sterilise** the bench **tomorrow**

I said that I **should sterilise** the bench **tomorrow**

I **have sterilised** the bench monthly **since 1989**

I **had sterilised** the bench monthly **until I was ill**

By then I **shall have sterilised** the bench **for a year**

I said that by then I **should have sterilised** it **for a year**

I **am sterilising** the bench **now**

I **was sterilising** the bench **at 11.00 yesterday**

I **shall be sterilising** the bench **at 11.00 tomorrow**

I **have been sterilising** the bench **since 11.00**

I **had been sterilising** the benches **until she took over**

Today I **shall have been sterilising** them **for a year**

I **sterilise** the bench every day

The bench **is sterilised** daily

I **do sterilise** the bench

I was **elbowed** aside

See: [Active/passive voice](#), [Auxiliary verbs](#), [Complete/incomplete predication](#), [Linking verbs](#), [Dynamic/stative verbs](#), [Finite/non-finite verbs](#), [Gerunds/participles](#), [Intransitive/transitive verbs](#), [Irregular/regular verbs](#), [Lexeme structure](#), [Light/phrasal verbs](#), [Modal/non-modal/quasi-modal verbs](#), [Moods of verbs](#), [Open/remote conditional clauses](#), [Person of verbs](#), [Phrases](#), [Sentences](#), [Strong/weak verbs](#), [Tenses of the declarative and conditional moods](#), [Tenses of the subjunctive mood](#)

Person of verbs

	1 st	2 nd	3 rd	person singular	1 st	2 nd	3 rd	person plural	
nominative case (as subject)	I	you	he	she	it	one	we	you	they
objective case (as object)	me	you	him	her	it	one	us	you	them
which pronoun is used depends on best demonstrated by comparison	who is speaking to whom about whom of direct speech (e.g. future tense/future perfect tense) with indirect (reported) speech (e.g. future-in-the-past/future perfect-in-the-past)								
future tense									
1 st person (I) in a statement by me of myself	"I shall arrive tomorrow"								
is referred to as	<i>I</i>	in a report by	me	to	others	I said that <i>I</i> should arrive tomorrow			
	<i>you</i>		you		me	You said that <i>you</i> would arrive tomorrow			
	<i>he</i>		others		others	He said that <i>he</i> would arrive tomorrow			
2 nd person (you) in a statement by me to you	"You will live to regret it"								
is referred to as	<i>you</i>	in a report by	me	to	you	I said that <i>you</i> would live to regret it			

	<i>she</i>	me	others	I said that <i>she</i> would live to regret it
	<i>I</i>	you	me	<i>You</i> said that <i>I</i> would live to regret it
	<i>I</i>	you	others	<i>He</i> said that <i>I</i> would live to regret it
	<i>she</i>	others	us	<i>You</i> said that <i>she</i> would live to regret it
	<i>you</i>	others	you	<i>He</i> said that <i>you</i> would live to regret it
	<i>she</i>	others	others	<i>He</i> said that <i>she</i> would live to regret it
3 rd person (<i>Jen</i>) in a statement by <i>me</i> to <i>others</i>				" <i>Jen</i> will write it tomorrow"
is referred to as	<i>you</i>	in a report by	me to Jen	I said that <i>you</i> would write it tomorrow
	<i>Jen</i>		me others	I said that <i>Jen</i> would write it tomorrow
	<i>I</i>		Jen me	<i>You</i> said that <i>I</i> would write it tomorrow
	<i>I</i>		Jen others	<i>He</i> said that <i>I</i> would write it tomorrow
	<i>Jen</i>		others me	<i>You</i> said that <i>Jen</i> would write it tomorrow
	<i>you</i>		others Jen	<i>He</i> said that <i>you</i> would write it tomorrow
	<i>Jen</i>		others others	<i>He</i> said that <i>Jen</i> would write it tomorrow
future perfect tense				
1 st person (<i>we</i>) in a statement by <i>us</i> of <i>ourselves</i>				" <i>We</i> shall have finished it be then"
is referred to as	<i>we</i>	in a report by	us to others	<i>We</i> said that <i>we</i> should have finished it be then
	<i>you</i>		you us	<i>You</i> said that <i>you</i> should have finished it be then
	<i>they</i>		others others	<i>They</i> said that <i>they</i> should have finished it be then
2 nd person (<i>you</i>) in a statement by <i>us</i> to <i>you</i> (all)				" <i>You</i> will have retired by then"
is referred to as	<i>you</i>	in a report by	us to you	<i>We</i> said that <i>you</i> would have retired by then
	<i>they</i>		us others	<i>We</i> said that <i>they</i> would have retired by then
	<i>we</i>		you us	<i>You</i> said that <i>we</i> would have retired by then
	<i>we</i>		you others	<i>They</i> said that <i>we</i> would have retired by then
	<i>they</i>		others us	<i>You</i> said that <i>they</i> would have retired by then
	<i>you</i>		others you	<i>They</i> said that <i>you</i> would have retired by then
	<i>they</i>		others others	<i>They</i> said that <i>they</i> would have retired by then
3 rd person (<i>Jen</i>) in a statement by <i>me</i> to <i>others</i>				" <i>Jen</i> will have written it tomorrow"
is referred to as	<i>you</i>	in a report by	us to Jen	<i>We</i> said that <i>you</i> would write it tomorrow
	<i>Jen</i>		us others	<i>We</i> said that <i>Jen</i> would write it tomorrow
	<i>I</i>		Jen us	<i>You</i> said that <i>I</i> would write it tomorrow
	<i>I</i>		Jen others	<i>They</i> said that <i>I</i> would write it tomorrow
	<i>Jen</i>		others us	<i>You</i> said that <i>Jen</i> would write it tomorrow
	<i>you</i>		others Jen	<i>They</i> said that <i>you</i> would write it tomorrow
	<i>Jen</i>		others others	<i>They</i> said that <i>Jen</i> would write it tomorrow

See: [Tenses of direct/indirect speech](#)

Strong/weak verbs

strong verbs	irregular changes in the		past tense	past participle
	a vowel change	to bring	brought	brought
		to swim	swam	swum
		to wear	wore	worn
	no change	to broadcast	broadcast	broadcast
		to quit	quit	quit
weak verbs	regular changes in the		past tense	past participle
	with <i>no</i> phonetic shift			
	<i>no</i> vowel change			
	add <i>-d</i>	to centrifuge	centrifuged	centrifuged
	<i>-ed</i>	to dissect	dissected	dissected
	change <i>d</i> to <i>t</i>	to bend	bent	bent
	with phonetic shift			
	<i>no</i> vowel change			
	add <i>-t</i>	to dreamt	dreamt	dreamt
		to leap	leapt	leapt
	with vowel change			
	add <i>-t</i>	to keep	kept	kept
		to sleep	slept	slept

See: [Irregular/regular verbs](#), [Irregular/regular words](#)

Singular/plural verbs

singular	used with subjects comprising		
	<i>one</i> noun or pronoun		That <i>man</i> is a good scientist; <i>he</i> is famous now
	<i>singular</i> nouns or pronouns joined by <i>or</i> or <i>nor</i>		Either <i>he</i> or <i>she</i> has to enter before the deadline
			Neither <i>Hamilton</i> nor <i>Fawcett</i> has won the prize this year
	<i>singular</i> and <i>plural</i> nouns or pronouns or both joined by <i>and</i>		<i>Eggs</i> and <i>bacon</i> is my favourite breakfast
	considered <i>together</i>		The <i>committee</i> has come to a decision
	<i>collective</i> nouns <i>themselves</i>		The <i>agenda</i> is listed at the back
	<i>plural</i> nouns that are <i>treated as singular</i>		
	<i>singular partitive constructions</i> of		
	<i>plural nouns</i> lacking a singular		<i>Part of the proceeds</i> goes towards their upkeep
	<i>mass nouns</i>		<i>A sample of semen</i> was analysed
plural	used with subjects comprising		
	<i>more than one</i> noun or pronouns		Two <i>syringes</i> are on the bench; <i>they</i> are by the sink
	<i>singular</i> nouns or pronouns or both joined by <i>and</i>		<i>A syringe</i> and a <i>needle</i> are on the bench

singular and **plural** nouns or pronouns or both joined by **and**
 with the plural closer to the verb
 considered **separately**
 what **collective** nouns **refer to**
singular nouns that are **treated as plural**
plural partitive constructions of
singular nouns lacking a plural
mass nouns

A **syringe and needles** are on the bench
Eggs and bacon are on my shopping list
 The **committee** are now taking their seats
 The **statistics** were done by computer

These **types of behaviour** are extremely rare
 Several **samples of semen** were analysed

See: [Nouns as adjectives](#), [Singular/plural nouns](#), [Units](#)

ALERT Check that the **subject and complement** of intransitive verbs agree in **number**

Another important **component** of the blood-epididymis barrier **are** the tight junctions
ERROR *Syntax:* the **verb** is **plural** but the **subject** of the sentence (**component**) is **singular**
CORRECT by

replacing **another** by **other** and **component** by **components**

Other important **components** of the blood-epididymis barrier **are** the tight junctions

replacing **are** by **is** and **junctions** by **junctional complex**

Another important **component** of the blood-epididymis **is** the **tight junctional complex**

ALERT Check that the **singular** **is not** used **incorrectly** for the **plural**

Between- and within-subject variability **was** also evaluated
ERROR *Syntax:* **variability** is **singular** but the **subject** of the sentence (two **variabilities** joined by **and**) is **plural**
CORRECT by replacing **was** by **were**
 Between- and within-subject variability **were** also evaluated

ALERT Check that the **plural** **is not** used **incorrectly** for the **singular**

The cost of housing these animals **are** rising
ERROR *Syntax:* the word **animals** is **plural** but the subject of the sentence (the cost of housing) is **singular**
CORRECT by replacing **are** by **is**
 The cost of housing these animals **is** rising

ALERT Check that **pronouns** agree with the subject of the sentence

In this work the application of general characteristics is to those to whom **it** may not be applicable
ERROR *Syntax:* **application** is **singular** but it is the **characteristics** (**plural**) that are applied
CORRECT by replacing **it** by **they**
 In this work the application of general characteristics is to those to whom **they** may not be applicable

Direct/indirect speech

direct the **exact words** that someone says or writes
 within **inverted commas** after a **verb** and **comma**

Cooper **said**, "Volume regulation of spermatozoa **is** a hitherto unrecognized function of the cells."

Cooper **said**, "It **is possible** that sperm volume regulation **is** due to epididymis-derived osmolyte loss."

indirect **not** the **exact words** that someone says or writes (a report, a paraphrase)

no inverted commas; after a **verb** and **that**

full quotation (repeated verbatim)

in the **present** tense indicating an accepted truth

Cooper **says that** volume regulation of spermatozoa **is** a hitherto unrecognized function of the cells.

in the **past** tense as a report of a past event

Cooper **said that** volume regulation of spermatozoa **was** a hitherto unrecognized function of the cells.

if **grammatically correct** retain the **mood** of the text

Cooper said it was **possible that** sperm volume regulation **was** due to epididymis-derived osmolyte loss.

paraphrased quotation (reworded contents)

for conciseness or clarity

Cooper **said that** sperm volume regulation was unknown **until recently**

edited quotation for what is **grammatically incorrect**

add **[sic]** to indicate that the writer is aware of the grammatical error

The student said it was **possible** that sperm volume regulation **could be** **[sic]** due to epididymis-derived osmolyte loss

use your judgement to **amend the grammar**

The student said it was **possible** that sperm volume regulation **is** due to epididymis-derived osmolyte loss

See: [Future tense of direct/indirect speech](#), [Inverted commas](#), [Paraphrase/quotation/verbatim](#), [Tenses of direct/indirect speech](#)

Finite/non-finite verbs

finite verbs

have a subject

change their forms with

number

person

tense

The **book** **sells** well

I **write**

today I **write**

today I **am writing**

The **books** **sell** well

he/she/it **writes**

yesterday I **wrote**

tomorrow I **shall be writing**

non-finite verbs (verbals) have **no** subject

do not change their form with number/person/tense

infinitives

with the infinitive marker (subordinator, particle) **to**

	full infinitive (to-infinitive)	I want to write a manuscript
	without the infinitive marker (subordinator, particle) to	
	base infinitive (bare, simple, plain)	You should write it soon
gerunds	verbal nouns	Writing manuscripts is difficult
participles	present participles	
	in continuous tenses	He is writing a manuscript
	as verbal adjectives	The students, writing their essays, were all men
	past participles	
	in the passive voice	The manuscript was written last week
	as verbal adjectives	The written manuscript was submitted last week

See: [Active/passive voice](#), [Auxiliary/lexical verbs](#), [Clauses](#), [Gerunds/participles](#), [Infinitives](#), [Intransitive/transitive verbs](#), [Modal/non-modal/quasi-modal verbs](#), [Phrases](#), [Split infinitives](#)

NON-FINITE VERBS

Infinitives

non-finite verb forms (verbals)

cannot be declined by person or number

do not govern prepositions

head words of **infinitive phrases**

stands for the verb as a whole

to eat we can eat

full infinitive (to-infinitive) **with** the infinitive marker (subordinator, particle) **to** for

lexical verbs

to write to speak

quasi-modal auxiliary verbs

to dare to need to use

non-modal auxiliary verbs

to be to do to have to let to will

base infinitive (bare, simple, plain) **without** the infinitive marker (subordinator, particle) **to** for

modal auxiliary verbs

can/could may/might must/ought shall/should will/would

may act as **nouns** as subject

(of a **verb**)

To write a review **is** his wish

as object

(of a **verb**)

He **likes to think**

I **want you to do** that

He **was used to sell** syringes [his fame was a selling point]

My favourite pastime **is to correct** English manuscripts

He is the **man to ask**

This **is easy to do**

This is what you **need to write**

He **must write** the review before the weekend

I **dare not do** that

subject complement

adjectives (of a **noun**)

adverbs (of a **verb**)

to create sequential verbs (with **auxiliary verbs**)

See: [Auxiliary/lexical verbs](#), [Finite/non-finite verbs](#), [Modal/non-modal/quasi-modal verbs](#), [Split infinitives](#), [Verbs](#)

ALERT Check that **infinitives** relate to objects that are **capable of doing something**

We randomly selected 14 samples **to perform** qRT-PCR

ERROR *Semantics*: this implies that the **samples** were to perform qRT-PCR but **samples** are **insentient and cannot** perform anything

CORRECT [if the samples were **to be analysed** by qRT-PCR] by

replacing to perform by for and analysis

We randomly selected 14 samples **for** qRT-PCR **analysis**

inserting on which

We randomly selected 14 samples **on which to perform** qRT-PCR

To analyse gene expression, 42-day-old WT mice were used

ERROR *Semantics*: this implies that the **mice** were to analyse gene expression but **mice** are **insentient and cannot** analyse anything

CORRECT [if the mice were **to be analysed**] by

replacing to analyse by for the analysis of

For the analysis of gene expression, 42-day-old WT mice were used

omitting were used and replacing the infinitive by the past passive

Gene expression **was analysed** in 42-day-old WT mice

Split infinitives

infinitives in which a ***word** or ***phrase** is inserted **between the infinitive marker to** and the **base infinitive**

usually split by inserted

adverbs

I did not dare **to *actually speak** to him

He proceeded **to *boldly answer** the question

He expected her **to *first write** to the Editor

He expected her **to *probably write** to the Editor

negatives

It is better **to *not admit** that you deleted the file

He considered it better for them **to have *not to sign** the authorisation form

verbs

This work was done **to *better understand** the causes of male infertility

There was no plan **to *even consider** postponing the exams

The current work was designed **to *further investigate** the action of A23187 on the acrosome reaction

avoid split infinitives by placing the inserted word

before the infinitive

I did not dare **actually to speak** to him

I did not **actually** dare **to speak** to him

	He proceeded boldly to answer the questions
	There was no plan even to consider postponing the exams
	He expected her first to write to the Editor
	It is better not to admit that you deleted the file
	He considered it better for them not to have to sign the authorisation form
	He expected her probably to write to the Editor
after the infinitive	This work was done to understand better the causes of male infertility
	He expected her to write first to the Editor
	The current work was designed to investigate further the action of A23187
	He expected her to write probably to the Editor
at the sentence end	This work was done to understand the causes of male infertility better
	He expected her to write to the Editor first
	He proceeded to answer the questions boldly
	The current work was designed to investigate the action of A23187 further
before and after the verb	He expected her probably to write first to the Editor

See: [Adverbs](#), [Position of adverbs](#)

ALERT Check that **infinitives are not split** when forming a **negative**

I think it better **to not admit** that I deleted the file

ERROR *Syntax*: **not precedes** the lexical **verb** it negates

CORRECT by **not splitting the infinitive** by

moving the negation before the infinitive

I think it better **not to admit** that you deleted the file

He wanted **to no more than go** through the motions of helping out

ERROR *Syntax*: **no more than** only governs a **base infinitive**

CORRECT by **not splitting the infinitive** by

using the auxiliary verb to do

He wanted **to do no more than go** through the motions of helping out

ALERT Check that **infinitives are not split** by words that can be **verbs**

There was no plan **to even consider** postponing the exams

ERROR *Semantics*: discourteous, is the verb **to even** (meaning **to make level**) or a split infinitive (**to consider**)? the reader **expects even** to be the **verb**, and **then realises otherwise** [**even** is used as an **adverb**]

CORRECT by **not splitting the infinitive** by

moving even before the verb

There was no plan **even to consider** postponing the exams

This work was done **to better understand** the causes of male infertility

ERROR *Semantics*: discourteous, is the verb **to better** (meaning **to improve**) or a split infinitive (**to understand**)? the reader **expects better** to be the **verb**, and **then realises otherwise** [**better** is used as an **adverb**]

CORRECT by **not splitting the infinitive** by

moving better after the verb

This work was done **to understand better** the causes of male infertility

moving better to the end of the sentence

This work was done **to understand** the causes of male infertility **better**

The current work was designed **to further investigate** the action of A23187 on the acrosome reaction

ERROR *Semantics*: discourteous, is the verb **to further** (meaning **to develop, to extend**) or a split infinitive (**to investigate**)? the reader **expects further** to be the **verb**, and **then realises otherwise** [**further** is used as an **adverb**]

CORRECT by **not splitting the infinitive** by

moving further after the verb

The current work was designed **to investigate further** the action of A23187 on the acrosome reaction

moving further to the end of the sentence

The current work was designed **to investigate** the action of A23187 on the acrosome reaction **further**

ALERT Check that infinitives **are not split** by **adverbs**

He proceeded **to boldly answer** the question

ERROR *Semantics*: ambiguous, there is no verb **to boldly**, it is unclear what **bold** governs, **to proceed** or **to answer** so **this could be interpreted as**

it was **bold (brave)** of him to proceed and answer the questions

or

he delivered the answers in a **bold (confident)** way

CORRECT [if the **former** is meant] by **not splitting the infinitive** by

moving boldly before a verb

He proceeded **boldly to answer** the questions

He **boldly** proceeded **to answer** the questions

CORRECT [if the **latter** is meant] by **not splitting the infinitive** by

moving boldly after the object

He proceeded **to answer** the questions **boldly**

ALERT Check that **infinitives are not split** by adverbs **that could govern** more than one verb

- I did not dare **to actually speak** to him
 ERROR *Semantics*: ambiguous, there is no verb **to actually**, it is unclear which verb **actually** governs, **to dare** or **to speak**
 so **this could be interpreted as**
 the **daring** was a problem
 or
 the **speaking** was a problem
 CORRECT [if the **former** is meant] by **not splitting the infinitive** by
 moving **actually** before the **auxiliary verb**
 I did not **actually dare to speak** to him
 CORRECT [if the **latter** is meant] by **not splitting the infinitive** by
 moving **actually** before the **infinitive**
 I did not dare **actually to speak** to him
- He expected her **to probably write** to the Editor
 ERROR *Semantics*: ambiguous, there is no verb **to probably**, it is unclear which word **probably** governs, **what** she did or **to whom** she wrote
 so **this could be interpreted as**
what she did was important
 or
to whom she wrote was important
 CORRECT [if the **former** is meant] by **not splitting the infinitive** by
 moving **probably** before the **infinitive**
 He expected her **probably to write** to the Editor
 CORRECT [if the **latter** is meant] by **not splitting the infinitive** by
 moving **probably** after the **infinitive**
 He expected her **to write probably** to the Editor
- He expected her **to first write** to the Editor
 ERROR *Semantics*: ambiguous, there is no verb **to first**, it is unclear which word **first** governs, the **verb** or the **recipient**
 so **this could be interpreted as**
 she was **to do something else** after writing
 or
 she was **to write to someone else** after writing to the Editor
 CORRECT [if the **former** is meant] by **not splitting the infinitive** by
 moving **first** before the **infinitive**
 He expected her **first to write** to the Editor
 CORRECT [if the **latter** is meant] by **not splitting the infinitive** by
 moving **first** after the **infinitive**
 He expected her **to write first** to the Editor
- He expected her **to probably first write** to the Editor
 ERROR *Semantics*: ambiguous, there is no verb **to probably**, it is unclear which **adverb** governs the **verb** and which the **indirect object**
 CORRECT by **not splitting the infinitive** by
 moving the **ordinal number** and **adverb** either side of the **infinitive**
 He expected her **probably to write first** to the Editor

Gerunds

- non-finite verb forms (verbals)**
 a verbal noun (a verb performing the function of a noun) as
cannot be declined by person or number
 head words of **gerundial phrases**
- | | |
|--|---|
| subject of a verb
alone
with another noun
take a direct object | Hiking is a good way to keep fit
Writing reviews is difficult
Applying these rules enables gerunds to be distinguished from participles
Using an infusion pump prevents tubule damage
Running regularly is good for the heart |
| object of a verb
alone
governed by adverbs
with another noun | I like writing
He was used to selling [he'd done it many times]
I like writing reviews
He was used to selling used phones [second-hand phones]
I was punished for giggling
My favourite pastime is hiking
Being jobless in London is not a pleasant experience
They were pleased by Britain's winning another gold medal
We were astound by Bristol's being awarded the honour
They appreciated Dr Yeung's participating in the meeting
He disliked Jean-Paul's being called a 'frog'
The train accident caused the scientist's leaving later than planned
The poor weather was responsible for the referees' arriving late
They complained of my giggling during the lecture
They did not appreciate his writing of their incompetence
His low Impact Factor prevented his becoming a lecturer
This prevented her contaminating the cultures
I stopped their giving the microscope away
His low Impact Factor prevented him from becoming a lecturer
This prevented her from contaminating the cultures |
- object of a preposition**
subject complement
 govern **prepositions**
 take the **genitive case** if for
- | | |
|---|---|
| places
personal names
personal nouns
personal pronouns | may take the objective case and a preposition |
|---|---|

I stopped *them from giving* the microscope away

See: [Gerunds/nouns](#), [Gerunds/participles](#), [Position of modifiers](#)

Participles

non-finite verb forms (verbals)

cannot be declined by person or number

need to appear with an **auxiliary** or other verb

he **has eaten** (perfect participle)

he **was eaten** (passive participle)

he **is eating** (progressive participle)

verbal adjectives

verb forms performing the function of an adjective a **broken** thermometer

a **sleeping** rat

head words of **participial phrases**

comprise

present (progressive) participles

consistent forms for base **infinitive**/participle

end in **-ing** added to the **base infinitive** (after removal of any terminal **e**) of both

irregular verbs

lexical

non-modal auxiliary

speak/speaking

know/known

write/writing

bend/bending

be/being

do/doing

have/having

let/letting

regular verbs

lexical

quasi-modal auxiliary

dissect/dissecting

cannulate/cannulating

need/needing

dare/daring

use/using

for **verbs ending in -ic**

the letter **k** is added before **-ing**

the final consonant is **doubled** with

monosyllables

a **short first vowel** and **stressed last** syllable

the consonant **L**

except for

the final consonant is **not doubled** with

a **short first vowel** and **stressed first** syllable

a **long last** syllable—even if **L**

the consonant is preceded by a **consonant**

used in creating

simple **present continuous** tenses

simple **past continuous** tenses

simple **future continuous** tenses

present perfect continuous tenses

past perfect continuous tenses

dynamic verbs

verbal adjectives

adjectival phrases

phrasal clauses

conjunctive phrases

panic/panicking

fret/fretting

bestir/bestirring

prefer/preferring

refer/referring

label/labelling

level/levelling

parallel/paralleling

focus/focusing

proffer/proffering

target/targeting

conceal/concealing

desire/desiring

desert/deserting

He **is writing** a manuscript now

I **was studying** yesterday

She **will be swimming** tomorrow

Dr Yeung **has been studying** the epididymis for years

Dr Cooper **had been studying** the testis until moving to Nashville

She **is being** argumentative

I watched the technician **calibrating** the osmometer

The surgeons, **having finished the operation**, went to dinner

The surgeons having finished the operation, the lights were dimmed

Judging from the phosphorylation state, the spermatozoa are capacitated

Providing no one objects, I'll cancel the seminar

Supposing they use phase contrast microscopy, the effect will be small

participial phrases with **subject**

the **same** as in the main phrase

not the same as in the main phrase

Realising he was wrong, **he** apologised

Considering the time, **he** closed the meeting

past (perfect) participles

inconsistent forms for base **infinitive**/participle

have to be memorised for

irregular verbs

lexical

non-modal auxiliary

speak/spoken

know/known

write/written

bend/bent

be/been

do/done

have/had

let/let

consistent forms for base **infinitive**/participle

end in **-d** (after removal of any terminal **e**), **-ed** (if no terminal **e**) for

regular verbs

lexical

quasi-modal auxiliary

dissect/dissected

cannulate/cannulated

need/needed

dare/dared

use/used

for **verbs ending in -ic**

the letter **k** is added before **-ing**

the final consonant is **doubled** with

monosyllables

a **short first vowel** and **stressed last** syllable

the consonant is **L**

except for

the final consonant is **not doubled** with

a **short first vowel** and **stressed first** syllable

a **long last** syllable polysyllabic—even if **L**

the consonant is preceded by a **consonant**

some verbs have **alternative forms -t or -ed**

panic/panicked

fret/fretted

bestir/bestirred

prefer/preferred

refer/referred

label/labelled

level/levelled

parallel/paralleled

focus/focused

proffer/proffered

target/targeted

conceal/concealed

desire/desired

desert/deserted

burnt/burned

dreamt/dreamed

kneelt/kneeled

learnt/learned

leapt/leaped

learnt/learned

spelt/spelled

spilt/spilled

spoilt/spoiled

broadcast/broadcast

cast/cast

forecast/forecast

Dr Yeung **studied** the kidney in Hong Kong before going to Reading

Dr Yeung **has studied** the epididymis for years

Dr Cooper **had studied** the testis before moving to Nashville

The topic **was studied** in detail

some verbs are **unchanged**

used in creating

simple **past** tenses

present perfect tenses

past perfect tenses

the **passive voice**

verbal adjectives
adjectival phrases
conjunctive phrases
participial phrases
phrasal clauses

dangling participles may appear

at the beginning of a sentence (sentry participles)
when separated from their noun or pronoun

after the main clause (advocate participles)
when providing a conclusion

used as prepositions

with no danger of dangling

according	assuming	barring	concerning	considering	depending	during	excepting	failing
following	given	granting	granted	including	judging	notwithstanding	past	
pending	providing	regarding	respecting	seeing	speaking	supposing	touching	

She then replaced the **broken** thermometer
The surgeons, **having finished the operation**, went to dinner
He can do it, **provided that** the equipment is working
Provided with the necessary equipment, he can do it
The surgeons having finished the operation, the lights were dimmed

After **washing** and **fixing**, the **slides** were stained
[the nearest noun for the participles to define is **slides**]
(implies that the slides did the washing and fixing)

The **compound** proved hard to crystallise, **resulting** in reduced yields
[the nearest noun for resulting to define is compound]
(implies that the compound resulted in reduced yields)

See: [Application of/applying](#), [Gerunds/participles](#), [Irregular/regular verbs](#), [Position of modifiers](#), [Position of participles](#)

ALERT Check whether a **gerund** or **participle** is being used

Developing cancers can be dangerous

ERROR *Syntax*: ambiguous, **it is unclear** if **developing** is used as a **participle** or **gerund**
so **this could be interpreted as**

the cancers themselves are dangerous [developing as a **participle**]
or

the development of cancers is dangerous [developing as a **gerund**]

CORRECT [if the **former** is meant] by

replacing the **auxiliary** with a **plural verb**

Developing cancers **are** dangerous

CORRECT [if the **latter** is meant] by

replacing the **auxiliary** with a **singular verb**

Developing cancers **is** dangerous

ALERT Check that a **participle** has a relevant noun or pronoun to qualify

Monkeys were observed **using** binoculars

ERROR *Semantics*: **using** is a participle (verbal adjective) and **monkeys** is the nearest noun it can complement

so **this implies** that the **monkeys** were using binoculars

CORRECT [if the **monkeys** really were using binoculars] by

moving the **participle** closer to the **noun** it defines

Monkeys using binoculars were observed

creating a **non-defining clause**

Monkeys, **which were using binoculars**, were observed

CORRECT [if the **observers** were using binoculars] by

replacing **using** with **by using**

Monkeys were observed **by using** binoculars

replacing **using** by a **preposition**

Monkeys were observed **through** binoculars

replacing **using** by a **prepositional phrase**

Monkeys were observed **by the use of/with the aid of** binoculars

Position of participles

the **position** of **participles** may **alter the meaning** of a sentence

past participles used as verbal adjectives

adopted	before the noun	refers to becoming part of a family
	after the noun	means chosen or selected
concerned	before the noun	means worried
	after the noun	means affected, particular or relevant
involved	before the noun	means complicated
	after the noun	means affected, particular or relevant

The **adopted child** will never find his true parents
The **method adopted** was enough to demonstrate the changes
Concerned students have difficulty studying for their exams
The grant will be given to the **student concerned**
She gave a long and **involved explanation**
I'll have a word with the **students involved**

See: [Position of adjectives](#)

Fused participles

the fusion of **participles** and **nouns** or **pronouns** when neither can be the subject of the verb

when a noun or pronoun is followed by an **-ing** verb it could be

a gerund	acting as a verbal noun
	as object of a verb
	with a preposition
	with the possessive
a participle	acting as a verbal adjective
	describing the noun/pronoun

He was right **about Tom's playing** for the departmental team

a fused participle acting together with the noun/pronoun as object of a preposition with a preposition with **no possessive**

for **nationalities**
non-personal nouns

personal nouns [separated from] -ing
proper names joined by **and**
impersonal pronouns

indefinite pronouns

We saw **Tom playing** for the departmental team

He was right **about Tom playing** for the departmental team

He is resentful **of the French being** called 'frogs'

They joked **about the laboratory being** haunted

[the **haunting of the laboratory** was joked about]

They expressed no opinion **about the jewels losing** their value

[the **loss in value of the jewels** brought no opinion]

We question the wisdom **of departments straying** into this area

[the wisdom of the **stray into this area** is questioned]

The rain was responsible **for the referees [from the USA] arriving** late

The students objected **to Cooper and Yeung choosing** the subjects

He looked forward **to it happening**

There is no chance **of that occurring** again

He wasn't aware **of anything happening**

Is there a problem **with everyone leaving** now?

This is a symptom **of something going wrong** with the banking system

See: [Gerunds](#), [Nouns](#), [Participles](#), [Position of modifiers](#)

FINITE VERBS

Auxiliary/lexical verbs

auxiliary verbs

modal auxiliary verbs

have a **base** infinitive

have no separate 3rd person singular form

past tense **does not** indicate past time

have no present or past participles

interrogative made by inverting **verb** and **subject**

negated by adding **not** after the infinitive

can/could may/might must/ought shall/should will/would

I can/he can

I may/she may

we must/they must

He should do it now

He might do it today

He could do it tomorrow

Should he do it now?

cannot/could not

shall not/should not

Might he do it today?

may not/might not

will not/would not

Could he do it tomorrow?

must not/ought not to

non-modal auxiliary verbs

have a **full** infinitive

have a separate 3rd person singular form

past tense indicates past time

have participles present

past

interrogative made by inverting **verb** and **subject**

negated by adding **do not** before the **base infinitive**

have not before the **participle**

to be

to do

to have

to let

to will

I am/he is

I do/he does

I have/he has

I let/he lets

I will/he wills

I **was** there yesterday

He **did** it yesterday

They **had** it yesterday

I am **being** silly

She is **doing** it now

They are **having** it now

I have **been** there

It was **done** yesterday

They have **had** it for ages

Have you been there?

Was it done yesterday?

Is she doing it now?

Does he do it well?

Do you have it?

Do they let them?

He **does not do** it well

She **does not have** it

He **does not let** them

He **has not done** it

She **has not had** it

He **has not let** them

quasi-modal auxiliary verbs

have a **full** infinitive

have a separate 3rd person singular form

past tense indicates past time

have participles present

past

interrogative made by inverting **verb** and **subject**

negated by adding **do not** before the **base infinitive**

does not dare **does not need**

have not before the **participle**

not after the **base infinitive**

to dare

I dare/he dares

I **dared** him last Tuesday

I am **daring** him to do it

to need

I need/he needs

He **needed** it yesterday

I have **needed** it before

to use

I use/he uses

I **used** it last week

He is **using** it now

They have **used** it before

dare he go?

need she pay?

does he dare to?

do I need to?

did they use to? [past]

did not use to [past]

has not dared

has not needed

has not used

dare not

need not

used not to

[split verb]

lexical verbs

full verbs conveying the meaning of a sentence

have a **full** infinitive

have a separate 3rd person singular form

past tense indicates past time

have participles present

past

interrogative made by adding **do** before the **subject**

negated by adding **do not** before the **base infinitive**

have not before the **participle**

to write

I write/he writes

I **wrote** it yesterday

I am **writing** it now

It was **written** yesterday

Does he write?

He **does not write**

He **has not written**

to speak

I speak/he speaks

I **spoke** yesterday

I am **speaking** now

It was **spoken** yesterday

Does she speak?

She **does not speak**

she **has not spoken**

(intransitive and dynamic verbs)

(transitive verbs)

(linking and stative verbs)

provide the action

explain what is happening to various direct objects

describe states of being

See: [Abbreviation/acronym/contraction/initialism](#), [Auxiliary verbs](#), [Linking verbs](#), [Dynamic/stative verbs](#), [Intransitive/transitive verbs](#), [Modal/non-modal/quasi-modal verbs](#), [Verbs](#)

Auxiliary verbs

function words

elements of grammatical structure

finite verbs used with **non-finite** verb forms (participles, infinitives) to create **sequential** verbs

comprise

	solely auxiliary verbs lexical and auxiliary verbs	modal verbs non-modal (primary) verbs quasi-modal verbs	can/could to be to dare	may/might to do to need	shall/should to have to use	will/would to let	must	ought to
for expressing	customs/habits	used to/would		He used to do it regularly He would exercise daily He must/should write it today He needs to/ought to finish it today				
	duties/obligation	must/should need to/ought to		He can/could take it May/might I borrow the key? Can/could you please hand this to him? I know that it can/will happen I knew that it could/would happen Do you know this paper? If I were you I should apply for the position If he could, he would hire you Do it now Let him in Do let him go If I were you, I would not do it If he could hire you, he would I do not have it I have not done it I shall do it tomorrow He will do it tomorrow I said that I should arrive tomorrow He said that he would arrive tomorrow He has done it now We believed that we should have finished by the weekend They said that they would have finished by the weekend She does take care Despite what you say, he shall do it tomorrow Don't worry, I will do it tomorrow It was designed by a student It has been done				
for attributes	ability permission politeness possibility	can/could may/might can/could can/will could/would						
for generating	interrogatives moods conditional imperative subjunctive negatives tenses future future-in-the-past perfect perfect-in-the-past voices emphatic passive	do should/would do/let be/could do not/have not shall/will should/would have have/should/would do/shall/will be/have						

See: [Active/passive voice](#), [Auxiliary/lexical verbs](#), [Finite/non-finite verbs](#), [Negation of verbs](#), [Modal/non-modal/quasi-modal verbs](#), [Tenses of the declarative and conditional moods](#), [Verbs](#)

ALERT With **should** as an auxiliary verb, check that only one verb is in the past tense

I should **have liked** to **have seen** it

ERROR *Syntax*: **both** auxiliary and infinitive are in the **perfect** tense, but only one needs to be

CORRECT by using the perfect form of one or the other, not both, by

replacing **have liked** by **like**

I should like to have seen it (I should like [now] to have seen it [then])

replacing **have seen** by **see**

I should have liked to see it (I should have liked [then] to see it)

Modal/non-modal/quasi-modal verbs

modal auxiliary verbs

do not act alone as lexical verbs

as auxiliary verbs determine the **mood** of the speaker with another **lexical verb**with **base infinitive**

can/could	ability politeness possibility subjunctive	[all persons] [all persons] [all persons] [all persons]	He can/could take it Can/could you please hand this to him? I know/knew that it can/could happen If he could hire you, he would May/might I borrow the key? If I were you I should apply for the position He shall do it tomorrow I shall do it tomorrow I said that I should arrive tomorrow We believed that we should have finished by the weekend He should do it today If he could, he would hire you I will do it tomorrow He will go to the seminar tomorrow He said that he would arrive tomorrow They said that they would have finished by the weekend He would exercise daily I know/knew that it will/would happen He must do it by Thursday
may/might	permission	[all persons]	
shall/should	conditional mood emphatic voice future tense future-in-the-past perfect-in-the-past	[1 st person] [2 nd , 3 rd person] [1 st person] [1 st person] [1 st person]	
	duties	[all persons]	
will/would	conditional mood emphatic voice future tense future-in-the-past perfect-in-the-past	[2 nd , 3 rd person] [1 st person] [2 nd , 3 rd person] [2 nd , 3 rd person] [2 nd , 3 rd person]	
	habits	[all persons]	
	possibility	[all persons]	
must	duties	[all persons]	

ought to	duties	[all persons]	I ought to do it today
<i>non-modal auxiliary verbs</i>			
as lexical verbs	take complements or objects		
be			He is a scientist
do			She does the staining
have			They have new instruments
let			They let the house to students
as auxiliary verbs	create moods, tenses, voices [with]		
be	negatives [not]		She is not taking up the offer
	continuous tense [present participle]		He is operating now
	passive voice [past participle]		His instruments were covered with blood
	subjunctive mood 3 rd person plural form		If I were you I'd stop
do	negatives [not]		She does not live there
	interrogatives [lexical verb]		Does anyone know this publication?
	emphasis [lexical verb]		He does care what happens
		[imperative verb]	Do get here by 19.00
	imperative mood [object]		Do it now
		[imperative verb]	Do let her go
have	negatives [not]		She has not taken up the offer
		[do not]	I do not have it
	perfect tense [past participle]		Others have filled the vacant post
	perfect-in-the-past [would/should]		We believed that we should have finished by the weekend
			They said that they would have finished by the weekend
	passive voice [past participle]		It has been done
let	imperative mood [base infinitive]		Let him go
		[preposition]	Let him in
<i>quasi-modal auxiliary verbs</i>			
as lexical verbs	take objects		
dare			I dare you to apply for the position
need			He needs a laboratory to work in
use			He used the cannulae yesterday
as auxiliary verbs			
dare	to have the courage to	with full infinitive	I dare to apply for the position
	to defy or challenge to	with full infinitive	She dares you to do it
		with base infinitive	He dare go there alone
need	duties		They need to do it today
used to	customs/habits		We used to exercise daily

See: [Auxiliary verbs](#), [Auxiliary/lexical verbs](#)

Linking (copular) verbs

function words

elements of grammatical structure

verbs of being (**copular** verbs) describing what the subject refers to

its condition	to appear	to be	to look	to remain	to seem
the result of change	to become	to get	to grow	to turn	

comprise

the verb **to be**

verbs **that can be replaced by [to be]**

describing conditions

They **are successful**

The animals **appear sated**

[the animals **are** sated]

He **looks content**

[he **is** content]

They **remain overpaid**

[they **are** overpaid]

He **seems happy**

[he **is** happy]

She **became sad**

[she **is** sad]

He **gets angry**

[he **is** angry]

They **grow discontented**

[they **are** discontented]

She **turned nasty**

[she **is** nasty]

describing changes

linking **prepositional** verbs

Let that **serve as** a warning

That doesn't **sound like** him

Don't **turn into** a glutton

may be of

complete predication

the verb **alone** is the predicate

the verb **to be**

I **am** (I exist)

incomplete predication

the verb needs a **subject complement** to complete the predicate

of predicative

adjectives

The spermatozoa **became hyperactivated**

adverbs

The treated rats **fell asleep**

nouns common

He is the **chairman**

proper

This is **Dr Albert**

pronouns personal

It **was he** who sterilised the instruments

possessive

These instruments **are mine**

infinitives

The laboratories **are to let**

participles

He **was selected**

phrases adjectival

The spermatozoa **appeared abnormally active**

adverbial

He **was proud of his student**

	clauses	The testes were able to move into the inguinal canal
are negated by placing		
not	after the verb to be	He was not selected
do not	before the base infinitive	The treated rats did not fall asleep
		The spermatozoa did not become hyperactivated

See: [Complements of verbs](#), [Complete/incomplete predication](#), [Sentences](#)

Complements of verbs

words required to **complete a predicate**

subject complements express something of the **subject**

for **linking verbs**

are predicative **adjectives**

adjectival phrases

adverbs

adverbial phrases

nouns common

proper

pronouns personal

possessive

infinitives

participles

phrases

clauses

object complements express something of the **object**

for **complex transitive (factive) verbs**

are predicative **adjectives**

adjectival phrases

nouns

The spermatozoa **became hyperactivated**

The spermatozoa **appeared abnormally active**

The treated rats **fell asleep**

He **was proud of his student**

He **is the chairman** [nominal predicates]

This **is Dr Albert** [nominal predicates]

It **was he** who sterilised the instruments

These instruments **are mine**

The laboratories **are to let**

The shelves **are to be filled**

He **was selected**

The testes **were in the abdomen**

The testes **were able to move into the inguinal canal**

We found **him dishonest**

He thought the **coffee tasteless**

We found **his behaviour unacceptable**

She deemed **him a person of high quality**

They elected **him president** of the committee

The appointed **Silvia team leader**

See: [Causative/complex transitive verbs](#), [Complete/incomplete predication](#), [Linking verbs](#), [Intransitive/transitive verbs](#), [Sentences](#)

Complete/incomplete predication

complete predication of **verbs** which **themselves** are the **simple predicate** of the sentence

linking verbs

requiring **no complement**

I **am**

intransitive verbs

requiring **no object alone**

This tissue **smells**

with **adverb**

The spermatozoa **migrated slowly**

adverbial phrase

The spermatozoa **swim through the gradient medium**

incomplete predication of **verbs** which are incomplete predicates of the sentence

linking verbs

require a **subject complement**

The spermatozoa **became hyperactivated**

transitive verbs

require a **direct object** of a

noun

I **unravelled the epididymal tubule**

pronoun

The mutant mouse **bit me**

phrase

We **trust in your honesty**

clause

I **believe you reviewed it well**

See: [Clauses](#), [Complements of verbs](#), [Intransitive/transitive verbs](#), [Phrases](#), [Sentences](#)

Light/phrasal verbs

light verbs

lexemes comprising **morphemes** of **verbs** whose meaning changes with the following **preposition(s)**

come

come **around** (agree)

come **into** (inherit)

come **off as** (appear)

come **out** (divulge homosexuality)

come **to** (awaken)

do

do **a number on** (overwhelm)

do **in** (kill)

do **lunch** (eat together)

do **up** (decorate)

get

get **a life** (self improve)

get **off on** (enjoy)

get **on** (board)

get **off** (alight)

get **out** (leave/divulge)

get **over** (surmount)

go

go **in for** (choose)

go **nuts** (dement)

go **off** (explode/spoil)

go **out with** (date)

have

have **a heart** (sympathise)

have **over** (entertain)

put

put **off** (procrastinate/offend)

put **one over on** (deceive)

put **down** (insult/kill)

put **in for** (request)

put **out** (extinguish/inconvenience)

set

set **right** (rectify)

set **off** (ignite)

set **the stage** (prepare)

set **up** (arrange/trick/introduce)

stand

stand **in** (replace)

stand **off** (repel)

stand **out** (impress)

stand **up for** (defend)

take

take **a bath** (bathe/lose money)

take **a leak** (urinate)

take **a walk** (walk)

take **in** (welcome/swindle)

take **off** (launch)

take **over** (usurp)

take **up** (commence)

phrasal verbs

verbs combined with a **particle** (usually a preposition)

idiomatic phrases

consisting of a **verb** and

an **adverb**

The enzyme **breaks down** its substrate

a **preposition**

I shall **miss out** the CaCl₂ next time

an **adverb** and **preposition**

He **looked down on** the people below

unnecessary phrases

when the **preposition** is unnecessary

and the **(verb alone)** is sufficient

check on (check)	climb up (climb)	cool down (cool)	debate on (debate)	fall down (fall)
head up (head)	grab hold (grab)	heat up (heat)	hoist up (hoist)	list out (list)
lose out (lose)	meet up with (meet)	miss out on (miss)	note down (note)	ponder on (ponder)
print out (print)	seal up (seal)	sign up (sign)	try out (try)	voice out (voice)
win out (out)				

or a relevant **(verb)** exists

face off (confront)	factor in (account for)	hold off on (delay)	sign off (conclude)	sign off on (approve)
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NOTE Overused phrases: often pleonasm

See: [Lexemes/words/syllables/morphemes/phonemes/graphemes/letters](#), [Oxymoron](#), [Pleonasm/tautology](#)

Completed/continuous/combined verb aspects

completed for **completed actions**

with an **auxiliary** verb and **past participle**

present perfect tense

He **have been** a researcher most of my life

past perfect tense

She **had lived** in Germany most of his working life

continuous for **uncompleted actions**

with an **auxiliary** verb and a **present participle**

being done currently

Don't come in the culture room **now** as I **am seeding** the cells

having been done in the past

Yesterday at this time I **was seeding** the cells

having to be done in the future

At this time **tomorrow** I **shall be seeding** the cells

for **emphasis** of completed actions

This **suggests** that in these mice the lowered LDL-cholesterol **is acting** on the epididymis

combined for the **combined duration and completion** of an action

with an **auxiliary** verb and **present and past participles**

present perfect progressive tense

I **have been studying** the epididymis since 1974

past perfect progressive tense

She **had been living** in Germany until retirement

See: [Dynamic/stative verbs](#)

Dynamic/stative verbs

dynamic action verbs, event verbs, non-stative verbs

describe an **action** or **event**

not a **state** or **condition**

with qualities **capable** of change (deliberately, by choice)

have a **start and finish**

may but **need not be** progressive

They **worked** on three manuscripts last night

He **walked** all the way here

I **am being** argumentative

I **am thinking** of using absorbable sutures

He **is running** in the election next week

She **is growing** HeLa cells in culture

stative static verbs, state verbs, non-dynamic verbs

describe a **state** or **condition**

not an **activity** or **event**

with qualities **incapable** of change (inert, with no choice)

have **no start or finish**

cannot be progressive

I **am** tall

I **think** it best to use absorbable sutures

She **hates** being late for work

He **likes** to read emails at 8 am

I **doubt** he'll come to the seminar

not I am being...

not I am thinking...

not She is hating...

not He is liking...

not I am doubting...

NOTE verbs may be both stative and dynamic

See: [Completed/continuous/combined verb aspects](#)

Intransitive/transitive verbs

intransitive verbs **transfer no** information from the subject

are verbs of **complete predication**

are only active verbs have **no passive** voice

the **verbs themselves** are the **simple predicate** of the sentence

they make sense if a full stop is placed directly after the verb

The spermatozoa **swim**

He **works**

She **dreamt**.

I **slept**.

You **survived**.

transitive verbs **transfer** information from the subject to an object

are verbs of **incomplete predication**

are both active and **passive** verbs

mono-transitive verbs

have only a **direct object**

active voice **subject** with **verb** and **direct object**

He **stained** the slides

passive voice **object** with **auxiliary verb** and **past participle**

The slides **were stained**

di-transitive verbs

have both **direct** and **indirect** objects

active voice	with no preposition preceding the <i>indirect object</i>	I gave the technician the scissors The technician handed me the scissors
	with to preceding the <i>indirect object</i>	I gave the scissors to the technician The technician handed the forceps to me
passive voice	with to (for <i>indirect object</i>) and by (for <i>subject</i>)	The scissors were given to the technician by me The forceps were handed to me by the technician
ambi-transitive verbs can be transitive or intransitive intransitive (no object)		
transitive (with <i>object</i>)		
complex transitive (factive) <i>verbs</i> have direct object and object complement		
active voice		He drank I gave up She read during dinner They dreamt that night He drank coffee I gave up smoking She read the menu They dreamt weird dreams
passive voice	with by (for <i>subject</i>)	The Dean appointed John treasurer The students elected Silvia president John was appointed treasurer by the Dean Silvia was elected president by the students

See: [Active/passive voice](#), [Causative/complex transitive verbs](#), [Complete/incomplete predication](#), [Complements of verbs](#), [Sentences](#)

Active/passive voice

active	the subject performs the action of the verb		
	an intransitive verb with no direct object	The spermatozoa swim	
passive	a transitive verb with a direct object	Dr Kahn designed the laboratory	[about Dr Kahn]
	the object suffers the action of the verb		
	only for transitive verbs (with direct object)	The laboratory was designed by Dr Kahn	[about the laboratory]
	may have a direct object	Dr Kahn was read a paper by his student	
		A paper was read to Dr Kahn by his student	
is useful	when agents need not be identified		
	passive	Your manuscript has been lost	
	is preferable to active	My secretary has lost your manuscript	[apportions blame]
is necessary	with objects incapable of performing actively		
	passive	The studies were aimed at finding the role of osmolytes	
	is preferable to active	The studies aimed at finding osmolyte roles	[implies studies have aims]
may change the meaning			
	if associated with an auxiliary verb		
	when active can means is able to	The wires can support the sheet	[are strong enough to]
	when passive can means is possible to	The sheet can be supported by the wires	[but may not be]
	of pronouns in main clauses referring to the subject of the subordinate clause		
	when active	If the rats breathed in the fibres, they would be trapped in the lungs	[the rats are trapped]
	when passive	If the fibres were breathed in by the rats, they would be trapped in the lungs	[the fibres are trapped]

See: [Intransitive/transitive verbs](#)

ALERT Check that the **active voice** is relevant

The studies **aimed** at elucidating the role of epididymal osmolytes
ERROR *Syntax: studies are insentient and cannot have aims*
CORRECT by **replacing** the **active** by the **passive** voice
 The studies **were aimed** at elucidating the role of epididymal osmolytes

The basic research **sought** answers to clinical problems
ERROR *Syntax: research is insentient and cannot seek answers*
CORRECT by **replacing** the **active** by the **passive** voice
 Answers to clinical problems **were sought** in basic research

Negation of verbs

infinitives take	not	before the full infinitive	It is better not to admit that you deleted the file He considered it better for them not to have to sign the authorisation form
			I am not sad You/we/they are not ill He is not generous
linking verbs take	do not	before the base infinitive	The treated rats did not fall asleep The spermatozoa did not become hyperactivated
			I do not keep the bench sterile I have not kept the bench sterile for years I had not kept the bench sterile until yesterday
transitive verbs take	do not	before the base infinitive	I do not keep the bench sterile
	have/had not	before a participle	I have not kept the bench sterile for years I had not kept the bench sterile until yesterday
modal verbs take	no	before the object of the verb	I keep no bench sterile
	not	before the full infinitive	He ought not to incubate them at 37°C

	before the <i>base infinitive</i>	She used not to plan her experiments He should not incubate them at 37°C She would not plan her experiments on Sunday
may [for permissions] takes not	after the <i>auxiliary verb</i>	He may inject the animals [because he has a licence to do so] He may not inject the animals [because he has no licence]
may [for assumptions]		We may assume that osmolytes are taken up by spermatozoa [the evidence is consistent with the assumption] We need not assume that osmolytes are taken up by spermatozoa [we need not make the assumption]
	requires a change of verb from may to need	
NOTE	in long sentences there may be ambiguity if the term of negation (never/not/no) is separated from the second verb and thus forgotten	
See: Auxiliary/lexical verbs , Linking verbs , Nor		
ALERT	Check that the use of negatives does not create ambiguity	
ERROR	In the past year, the Department has never suffered a lack of funding, or failed to get jobs for its graduates <i>Semantics:</i> ambiguous, as there is a comma before or , it separates clauses of equal importance this means that never applies only to suffer , which is counter-intuitive so this could be interpreted as the Department failed to get jobs [comma deliberate] or the Department never failed to get jobs [comma an error]	
CORRECT	[if the former is meant] by omitting the comma before or , and replacing or by but In the past year, the Department has never suffered a lack of funding but failed to get jobs for its graduates	
	omitting the comma before or , and replacing or by and yet In the past year, the Department has never suffered lack of finding and yet failed to get jobs for its graduates	
CORRECT	[if the latter is meant] by omitting the comma before or , so never applies to the verbs in each clause In the past year, the Department has never suffered a lack of funding or failed to get jobs for its graduates	
	omitting the comma before or , and replacing or by nor In the past year, the Department has never suffered a lack of funding nor failed to get jobs for its graduates	
	omitting the comma before or , replacing or by and , and repeating has never In the past year, the Department has never suffered a lack of funding and has never failed to get jobs for its graduates	
ERROR	It is not expected that tomorrow's seminar will deal with spermatogenesis but will be confined to general gonadal physiology <i>Semantics:</i> ambiguous, as there is no comma before but , it is unclear whether is not also applies to the parallel clause so this could be interpreted as both dealing with spermatogenesis and being confined to general gonadal physiology are not expected or only dealing with spermatogenesis is not expected	
CORRECT	[if the former is meant] by omitting the negative , inserting neither before deal and replacing but will by nor It is expected that tomorrow's seminar will neither deal with spermatogenesis nor be confined to general gonadal physiology	
	omitting the negative , inserting neither after expected and replacing but by nor that it It is expected neither that tomorrow's seminar will deal with spermatogenesis nor that it will be confined to general gonadal physiology	
CORRECT	[if the latter is meant] by omitting not before expected and adding not before deal It is expected that tomorrow's seminar will not deal with spermatogenesis but will be confined to general gonadal physiology	
ERROR	Last year, the Institute suffered no lack of travel grants, or failed to invite foreign speakers <i>Semantics:</i> ambiguous, as there is a comma before or , it separates clauses of equal importance this means that no applies only to suffer , which is counter-intuitive so this could be interpreted as the Institute failed to invite foreign speakers [comma deliberate] or the Institute did not fail to invite foreign speakers [comma an error]	
CORRECT	[if the former is meant] by omitting the comma before or , and replacing or by but Last year, the Institute suffered no lack of travel grants but failed to invite foreign speakers	
	omitting the comma before or , and replacing or by and yet Last year, the Institute suffered no lack of travel grants and yet failed to invite foreign speakers	
CORRECT	[if the latter is meant] by rewriting the sentence by omitting the comma before or , replacing or by and , and replacing failed to invite by invited Last year, the Institute suffered no lack of travel grants and invited foreign speakers	
	omitting the comma before or , replacing suffered no by did not suffer Last year, the Institute did not suffer a lack of travel grants or fail to invite foreign speakers	
	omitting the comma before or , replacing suffered no by did not suffer and or by and did not Last year, the Institute did not suffer a lack of travel grants and did not fail to invite foreign speakers	
ERROR	The students demanding an end to Saturday lectures, higher grants and more travel allowances <i>Semantics:</i> ambiguous, as the comma separates list items not clauses, it is unclear if an end to should precede all of the listed items so this could be interpreted as the students' demanding an end to Saturday lectures, an end to higher grants and an end to travel allowances or	

demanding **an end** to Saturday lectures but **demanding** higher grants and **demanding** more travel allowances

CORRECT [if the **former** is meant] by
repeating an end to for **emphasis**
 The students demanded **an end to** Saturday lectures, **an end to** higher grants and **an end to** more travel allowances

enumerating the items and **placing an end to** before the list
 The students demanded **an end to** (1) Saturday lectures, (2) higher grants and (3) more travel allowances

CORRECT [if the **latter** is meant] by
enumerating the items after **placing an end to** after the first item
 The students **demanding** (1) **an end to** Saturday lectures, (2) higher grants and (3) more travel allowances

inserting other **verbs** to each listed item
 The students **demanding** an end to Saturday lectures, **wanted** higher grants and **requested** more travel allowances

We **regret** that she decided to give up the chairmanship but she intended to remain an active committee member

ERROR *Semantics:* ambiguous, as there is no comma before **but**, it is unclear whether **regret** applies also to the parallel clause so **this could be interpreted as**
 we regret **both** the decision **and** the intention
 or
 we regret **only** the decision

CORRECT [if the **former** is meant] by
inserting both after **decided** and **replacing but** by **and**
 We **regret** that she decided **both** to give up the chairmanship **and** to intend to remain an active committee member

inserting both after **regret** and **replacing but** by **and that**
 We **regret both** that she decided to give up the chairmanship **and that** she intended to remain an active committee member

CORRECT [if the **latter** is meant] by
replacing but by **and note that**
 We **regret** that she decided to give up the chairmanship **and note that** she intended to remain an active committee member

MOODS OF VERBS

Moods of verbs

a feature of verbs that indicates whether it expresses

- facts (**declarative** mood)
- questions (**interrogative** mood)
- conditions (**conditional** mood)
- commands, emphasis (**imperative** mood)
- unreality (**subjunctive** mood)

See: [Conditional mood](#), [Declarative \(indicative\) mood](#), [Imperative mood](#), [Interrogative mood](#), [Subjunctive mood](#)

Declarative (indicative) mood

for expressing the **factual**

begins with **subject** before the **verb**
ends with a full stop (.)

in the [main] clause of **simple** sentences
 providing information

for routine actions
 for accepted wisdom

in the [main] clauses of **compound** sentences
 expressing facts

in the [main] and (**subordinate**) clauses of **complex** sentences
 expressing statements

known to be true

shown to be true

thought to be true

that **may be true** in the future

[future-time open conditionals]

that **may have been true** in the past

[present-time open conditionals]

in the (main) clause with the **subjunctive** in the [subordinate] clause of

statements expressing

conditions

demands

desires

intentions

opinions

preferences

proposals

purpose

requests

[We **have submitted** our manuscript to this journal].

[You **sterilised** the work bench last night].

[I **start** my research every day at 8.00].

[The guinea pig acrosome reaction **is stimulated** by the ionophore A23187].

[We **enclose** our revised manuscript with this letter] and [supply a list of the changes made].

[It **is** important] (that the chairman **enjoys** the staff's confidence).

(the chairman **does** enjoy the confidence of the staff—and this is important)

[It **is** right] (that the student **is** held to account for his plagiarism).

(the student **is being** held to account—and this is correct)

[We **have demonstrated**] (that the enzyme **acts** as a true ROS scavenger).

[We **speculate**] (that the enzyme **acts** as a true ROS scavenger).

(If I **do** that), [the blood vessel **will rupture**].

(If she **uses** that culture medium), [the cells **will die**].

(If she **takes** that plane), [she **will arrive** at 22.00].

(If I **was** rude yesterday), [I **apologise**].

(If you **did** that), [I **am impressed**].

(If she **took** that plane), [she **will have arrived** at 22.00].

[She **is allowed** in the culture room] (on condition that she **wear** a mask)].

[He **demanding**] (that she **recognise** his rights).

[I **wish**] (that it **were** over and done with).

[It **was intended**] (that the repairs **be** completed this week).

[It **is essential**] (that he **stop**).

[I **should prefer**] (that he **stay** on next year).

[I **propose**] (that he **be asked** to join).

[She **insisted**] (that she **be allowed** to take part).

[The librarian **requested**] (that he **keep** quiet).

suggestions [We **suggested**] (that he **take** leave of absence)].

ALERT Check whether the **declarative** or **subjunctive** mood is needed

It's important that the chairman **enjoys** the confidence of the board's members

ERROR *Semantics*: ambiguous, it is **unclear** whether **enjoys** (declarative) or **enjoy** (subjunctive) is meant so **this could be interpreted as**

the chairman **does enjoy** the confidence of the members [declarative mood] (the action **has already** occurred)
or

the chairman **ought to** [but may not] **enjoy** the confidence of the members [subjunctive mood] (the action **has not yet** occurred)

CORRECT [if the **former** is meant] by

retaining the original text

It's important that the chairman **enjoys** the confidence of the board's members

CORRECT [if the **latter** is meant] by

replacing the declarative by the subjunctive

It's important that the chairman **enjoy** the confidence of the board's members

Interrogative mood

for asking questions

ends with a question mark (?)

with **simple questions**

the **subject** and **verb are not inverted** with **who**

Who will attend?

Who did that?

the **subject** and **verb are inverted** for **direct questions**

Are the statistical tests consistent with the data distribution?

with **to do**

Does he write well?

with **interrogative pronouns**

How was it done?

What colour is **the nucleus** stained?

When was **this** written?

Which Journal was **it** published in?

Whose book is **this**?

Why was **this** done?

with **pronouns and to do**

What does **this** mean?

To whom does **it** belong?

Why did **he** do it?

with **modal auxiliary verbs**

Can **he** attend?

Must **he** attend?

Shall I attend?

Will **you** attend?

with **compound questions**

the **subject** and **verb** are **inverted** in **both** clauses

[**Did** **he** withdraw the manuscript] or [**was** **it** rejected?]

with **complex questions**

the **subject** and **verb are not inverted** in the (subordinate clause)

(When **you are** culturing), [**do** **you** change the medium every day?]

See: [Auxiliary verbs](#), [Declarative \(indicative\) mood](#), [Inversion of verbs and subjects](#), [Pronouns](#)

Imperative (emphatic) mood

for expressing **imperatives** (orders), emphasis (emphatic mood)

the verb is the **base infinitive** form

no subject (assumed to be the speaker)

directed towards an assumed (unwritten) 2nd person [you/you all]

ends with an exclamation mark (!) or full stop (.)

used alone

for advice [you] **Wash** your hands before surgery.

commands [you] **Submit** your manuscript tomorrow!

instructions [you] **Attach** the syringe to the cannula, **insert** the bevelled end into the severed vas deferens and **tie** it in place.

orders [you] **Keep** the culture room sterile!

requests If you **see** them tomorrow, [you] **give** them my regards.

used with the **auxiliary verbs**

for emphasis [you] **Do not enter** the culture room when the UV light is on.

[you] **Let** me **speak** to him!

[you] **Do let** him **operate** the microscope!

See: [Auxiliary verbs](#)

Subjunctive mood

for expressing **highly unlikely** statements

formed by the **present (be)** and **past (were)** subjunctive of the verb to be
the **3rd person plural** form of other verbs

followed by a **past participle, an infinitive, an adjective**

an **auxiliary verb** followed by an **base infinitive**

could present subjunctive

may future/present subjunctive

might imperfect subjunctive

ought future/present/imperfect/pluperfect subjunctive

should future/present/imperfect/pluperfect subjunctive [often elided]

would present/imperfect/pluperfect subjunctive

used in the [main clause]

for action **has not yet** occurred

[It is important that the chairman **enjoy** the staff's **confidence**]
 (the chairman **ought to** enjoy the confidence of the staff—but he may not)
 [It is right that the student **be held to account** for his plagiarism]
 (the student **ought to** be held to account—but perhaps is not yet)

used in (**subordinate** clauses) of sentences

with the **declarative** in the [**main** clause] of statements introduced by

that and expressing

conditions	[She is permitted to enter] (on condition that she wear a mask)
demands	[The Treasurer demand ed] (that he pay his subscription)
desires	[I wish] (that it were over and done with)
intentions	[It is unfortunate] (that he be offended)
	[It was intended] (that the repairs be completed this week)
opinions	[It is essential] (that he stop)
preferences	[I prefer] (that he stay on next year)
proposals	[I propose] (that he be asked to remain)
purposes	[She insisted] (that she be allowed to take part)
requests	[The librarian requested] (that he keep quiet)
suggestions	[We suggested] (that he take leave of absence)

in case, in order that, lest, so that and expressing

purpose	[He will say nothing] (in case he be punished)
	[He will say nothing] (in order that he not be punished)
	[He will say nothing] (lest he be punished)
	[She is telling everyone] (in order that everyone know the facts)
	[She told her story] (in order that everyone know the facts)
	[He said nothing] (lest he be punished)
	[He said nothing] (so that he not be punished)

as if, as though, if, supposing and expressing

what may not be true	[He looked at me] (as if I were an idiot)
	[The treated animals appeared] (as though they were sleeping)
	[What would happen] (if she were to refuse)?
	[Supposing he were lying]; (would you still accept his argument)?

with the **conditional** in the **main** clause of statements introduced by

if that may be true

	[I would do it] if I could [do it]
	[If I were Director], [I could hire you]
	[If I were honest], [he would fail the examination]
	[If you were to do that], [you would be fined]
	[If he were to arrive tomorrow], [I would be very surprised]
	[If he were here], [he would be able to help]
	[If he were to apply], [they would accept him]
	[If he were alive], [he would be very old]
cannot be true	[If Darwin were alive], [he could explain it in more detail]
	[If I were you], [I would apply for the position immediately]
in common phrases	[Be that as it may , ...] [May it be that]
	[Far be it from me ...] [May it be far from me]
	[Heaven forbid!] [May heaven forbid]
	[If need be , ...] [May it be needed]
	[Perish the thought!] [May the thought be perished]
	[So be it!] [May it be so]
	[Suffice it to say ...] [May it suffice]
	[Woe betide ...] [May woe betide]

See: [Idiomatic word usage](#), [If he is/was/were](#), [If I am/was/were](#), [In case/in order that/lest](#), [Tenses of the subjunctive mood](#)

ALERT Check whether the **declarative** or **subjunctive** mood is needed

It is right that the student **is** held to account for his plagiarism

ERROR *Semantics*: ambiguous, it **is unclear** whether **is** (declarative) or **be** (subjunctive) is meant

so **this could be interpreted as**

the student is being held to account	[declarative mood] (the action has already occurred)
or	

the student ought to be [but perhaps is not yet] held to account	[subjunctive mood] (the action has not yet occurred)
---	--

CORRECT [if the **former** is meant] by

retaining the original text

It is right that the student **is** held to account for his plagiarism

CORRECT [if the **latter** is meant] by

replacing the declarative by the **subjunctive**

It is right that the student **be** held to account for his plagiarism

Conditional mood

for expressing **not necessarily true** statements, **conditional** on uncertain factors

formed by a modal **auxiliary** verb followed by a **base infinitive** **could** **should** **would**

in the **main** clause of sentences that

are true with the **declarative** in the (subordinate, **conditional**) clause

I **would like to submit** my paper to your journal (**but** it **is** not good enough)
 He **would like to apply** for the position (**but** he **is** too young)
 He **would like to submit** his paper to that journal (**but** its Impact Factor **is** too low)

may be true	with the subjunctive in the (subordinate, conditional) clause I would do it (if I could) (Supposing his flight were today), they would meet him at the airport tomorrow (If he were alive), he would be very old (If it were possible), he would attend (If I were honest), he would fail the examination (If you were to do that), you would be fined (If he were to apply), they would accept him (If I were Director), I could hire you
cannot be true	with the subjunctive in the (subordinate, conditional) clause (If Darwin were alive), he could explain it in more detail (If I were you), I would apply for the position immediately

See: [Auxiliary verbs](#), [Modal/non-modal/quasi-modal verbs](#), [Moods of verbs](#)

Conditional statements

categorisation of **results** in the [main clause], depending on the **conditions** in the (subordinate clause)

zero conditional	[universal statements]	applies to	
general situations	for event that will always happen		
present simple tense	in the (subordinate conditional clause)		
present simple tense	in the [main clause]		(If water reaches 0°C degrees), [it freezes] (If water reaches 100°C), [it boils]
first conditional	[future-time open conditional]	applies to	
particular situations	for events that will happen in the future if the conditions are met		
present simple tense	in the (subordinate conditional clause)		
future simple tense	in the [main clause]		(If it rains), [I won't go to the park] (If I win the prize), [I'll apply for the position] (If she studies harder), [she'll pass the exam]
second conditional	[future-time remote conditional]	applies to	
hypothetical situations	for events that are unlikely to happen in the future if the conditions are met		
subjunctive mood	in the (subordinate conditional clause)		
conditional mood	in the [main clause]		(If she were to study harder), [she would pass the exam] (If I were to win a million dollars), [I could stop working] (If he were to sterilise the bench), [I should be surprised]
third conditional	[past-time remote conditional]	applies to	
imaginary situations	for events that may have happened if the past event had occurred		
past perfect tense	in the (subordinate conditional clause)		
present perfect conditional mood	in the [main clause]		(If I had won the lottery), [I would have bought a car] (If you had bought a lottery ticket), [you might have won]
mixed conditional	[a mixture of the third and second conditionals]	applies to	
hypothetical situations	for events that may have happened if the past event had not occurred		
past perfect tense	in the (subordinate conditional clause)		
present conditional mood	in the [main clause]		[We would be relaxing now] (if we hadn't had an awful boss) (If I hadn't won the lottery), [I wouldn't have bought a car]
present perfect conditional mood	in the [main clause]		

See: [Conditional mood](#), [Idiomatic word usage](#), [Open/remote conditionals clauses](#), [Universal statements](#)

Universal statements

refer to reproducible actions consistently providing the same results (zero conditional statements)

appear to be factual conditional statements	If you heat water, it boils If you cool water, it freezes
but are not true conditionals because if can be replaced by when or whenever (meaning universally)	When you heat water to 100°C, it boils Whenever you cool water below 0°C, it freezes

See: [Conditional mood](#), [Conditional statements](#), [When/whenever/whensoever](#)

TENSES OF VERBS

Tenses of the declarative and conditional moods

Tense	Mood	Time	Completed	Continuous [Progressive]
			Voice	Voice
			Active	Passive
future	for an action that is certain, scheduled or expected to happen or be the case in the future			
simple future tense	refers to a future action at some stated time			
	direct speech			
	declarative	I shall tell	I shall be told	I shall be telling
		He will tell	He will be told	He will be telling
future-in-the-past tense				
	reported simple future tense			
	I said that	I should tell	I should be told	I should be telling
	he said that	he would tell	he would be told	he would be telling
future perfect tense				
	refers to a future action to be completed at some stated time			

	direct speech				
	declarative	I shall have told	I shall have been told	I shall have been telling	
		He will have told	He will have been told	He will have been telling	
	future perfect-in-the-past tense				
	reported future perfect tense				
	I said that	I should have told	I should have been told	I should have been telling	
	he said that	He would have told	He would have been told	He would have been telling	
present	for an action not yet completed, that is ongoing or habitual				
	simple present tense				
	refers to a present action at some stated time				
	direct speech				
	declarative	I tell	I am told	I am telling	I am being told
	emphatic	I do tell			
	conditional	I should tell	I should be told	I should be telling	
		He would tell	He would be told	He would be telling	
	present perfect (perfect) tense				
	refers to an action continuing at the present, resulting from a past action				
	direct speech				
	declarative	I have told	I have been told	I have been telling	
	conditional	I should have told	I should have been told	I should have been telling	
		He would have told	He would have been told	He would have been telling	
past	for an action having happened or being the case in the past				
	simple past (past definite, preterite) tense				
	refers to an action done once in the past and completed at some stated time				
	direct speech				
	declarative	I told	I was told		
	emphatic	I did tell			
	imperfect (continuous past)			I was telling	I was being told
	past perfect (pluperfect) tense				
	refers to a past action completed at some stated time				
	direct speech				
	declarative	I had told	I had been told	I had been telling	
NOTE					
	I shall drown, no one will save me		[I should like to be saved but everyone is ignoring me]		
	I will drown, no one shall save me		[I am determined to drown: I forbid anyone to save me]		

NOTE I **shall** drown, no one **will** save me [I should like to be saved but everyone is ignoring me]
I **will** drown, no one **shall** save me [I am determined to drown; I forbid anyone to save me]

See: [Active/passive voice](#), [Future tense of direct/indirect speech](#), [Idiomatic word usage](#), [Irregular/regular verbs](#), [Moods of verbs](#), [Open/remote conditional clauses](#), [Tenses of the subjunctive mood](#), [Verbs](#)

ALERT Check for agreement of participles when using **two tenses**

I **never have** and never **shall agree** with him
ERROR *Syntax*: the **present tense** requires the past participle **agreed**, the **future tense** the infinitive **agree**
CORRECT by **rewriting the sentence** by
inserting the missing **agreed**
I never have **agreed**, and never shall agree, with him
I never have **agreed** with him and never shall do so

Tenses of the subjunctive mood

for actions that are uncertain or unlikely to happen, to be happening or to have happened
with the **subordinate** (conditional clause)
and the **conditional** mood in the [main clause]

present subjunctive

future meaning what **may happen** in the future—but may not
(If he **were to do** that), [I **should** help him]
(Supposing his flight **were to be** today), [she **would** meet him anyway]
(If he **were to do** that), [I **would** help him]

imperfect subjunctive

present meaning what **might be happening** at the present—but isn't
(If he **should be doing** that), [you **would be helping** him]
(If he **should have come**), [you **would be enjoying** his company]
(If he **were living** here now), [he **would be enjoying** the view]
(If he **were doing** that), [you **would be helping** him]

pluperfect subjunctive

past meaning what **might have happened** in the past—but didn't
(If he **had done** that), [they **would have helped** him]
(If only you **had listened** to me), [you **would have passed** the exam]
(If he **had done** that), [they **would have helped** him]
(If she **had taken** that plane), [she **would have arrived** at 22.00]

mixed tense subjunctives

past, present (If he **had come**), [we **would be enjoying** his company]
present, future (Supposing his flight **should be** today), [they **would meet** him at noon]

See: [Conditional mood](#), [Conditional statements](#)

Tenses of direct/indirect speech

when **direct** speech is in the

future tense "We **are going to buy** a CASA machine"

reported speech may retain the **future** tense
change to the **past** tense

The professor said they **are going to buy** a new CASA machine [definite]

The professor said they **were going to buy** a new CASA machine [if funds allow]

present tense "Where **are** the instruments?"

reported speech may retain the **present** tense
change to the **past** tense

The surgeon asked where the instruments **are**

The surgeon asked where the instrument **were**

past tense "We **went** to the culture room after the seminar"

reported speech may retain the **past** tense
change to the **past perfect**

The students said they **went** to the culture room after the seminar

The students said that they **had gone** to buy a new CASA machine [later]

See: [Future tense of direct/indirect speech](#), [Person of verbs](#)

Future tense of direct/indirect speech

direct speech

formed from the **present tense** of the auxiliary verbs **shall/will**

and **base infinitive**

for normal use	shall	for the 1st person , singular/plural
	will	for the 2nd and 3rd persons , singular/plural
for emphasis	shall	for the 2nd and 3rd persons , singular/plural
	will	for the 1st person , singular/plural

I/we **shall go**

you/he/she/it/they **will go**

you/he/she/it/they **shall go**

I/we **will go**

[ellipsis] is used in the **future perfect** tense

When I [**shall**] **have finished** my work, I see you

indirect (reported) speech

formed with the **past tense forms** of the modal auxiliary verbs **can (could)** **may (might)** **shall (should)** **will (would)**

from **direct speech** (direct quotations)

in the **1st person** (singular/plural) in the **simple future** and **future perfect** tenses

generating **reported speech** (indirect quotations)

in the **1st/2nd/3rd person** (singular/plural) in the **future-in-the-past** and **future perfect-in-the-past** tenses

simple future tense

statement by me of myself "simple future" is reported as
report by me to others "I **shall** arrive tomorrow"

"future-in-the-past"

I said that I **should** arrive tomorrow

You said that you **would** arrive tomorrow

He said that he **would** arrive tomorrow

statement by me to you "You **will** regret it"

report by me to you

I said that you **would** regret it

I said that she **would** regret it

You said that I **would** regret it

He said that I **would** regret it

He said that she **would** regret it

statement by me to others "John **will** write it now"

report by me to John

I said that you **would** write it now

I said that John **would** write it now

You said that I **would** write it now

He said that I **would** write it now

He said that John **would** write it now

future perfect tense

statement by us of ourselves "future perfect" is reported as
report by us to others "We **shall have** finished by then"

"future perfect-in-the-past"

We said that we **should have** finished it by then

You said that you **would have** finished it by then

They said that they **would have** finished it by then

statement by us to you "You **will have** finished it by then"

report by us to you

We said that you **would have** finished it by then

We said that they **would have** finished it by then

You said that we **would have** finished it by then

They said that we **would have** finished it by then

They said that they **would have** finished it by then

statement by us to others "John **will have written** it by Tuesday"

report by us to John

We said that you **would have written** it by Tuesday

We said that John **would have written** it by Tuesday

You said that I **would have written** it by Tuesday

They said that I **would have written** it by Tuesday

They said that John **would have written** it by Tuesday

See: [Can/could](#), [Direct/indirect speech](#), [May/might](#), [Person of verbs](#), [Shall/should](#), [Tenses of direct/indirect speech](#), [Verbs](#), [Will/would](#)

ADJECTIVES

Types of adjective

content words

describe (govern, qualify, modify)

do not qualify

head words of **adjective phrases**

non-descriptive adjectives

determiners

nouns
verbs

pronouns

noun phrases

descriptive adjectives**simple adjectives**

attributive adjectives come **before** the noun

coordinate adjectives of **equal** rank

separated by commas

A **fertile, healthy** marmoset

[a marmoset which is both fertile and healthy]

cumulative adjectives of **unequal** rank

not separated by commas

A **fertile healthy** marmoset

[of the **healthy** marmosets, one which is **fertile**]

both **coordinate** and **cumulative** adjectives

without and **with** commas

A **clear, binding legal** document

[of the **legal** documents, those that are **clear** and **binding**]

should not exceed three and in the order

determiners + observations (subjective + objective) + adjunct

predicative adjectives come **after** a linking verb

as complements of **linking verbs**

The marmoset **is** **fertile** and **healthy**

The document **is** **clear, binding** and **legal**

compound adjectives

attributive adjectives created by

inserting **hyphens** between

adverbs and **adjectives**

prefixes and **adjectives**

nouns and **adjectives**

participles

well-known scientist

non-binding contract

carbon-neutral process

alcohol-related disease

phosphate-buffered saline

up-to-date entry

vitamin-deficient diet

chemical-induced mutation

user-generated algorithm

in-vitro fertilisation

magnet-activated bead

X-ray-induced damage

words in a **phrase**

not inserting hyphens between

adverbs and **participles**

manually operated devices

scientifically accepted tests

chemically induced mutations

vertically running columns

magnetically activated beads

absolute adjectives

have no in-between stages

cannot be modified by adverbs

have no comparative or superlative forms

complete

equal

infinite

perfect

true

unique

non-absolute adjectives

have in-between stages

can be modified by adverbs

have comparative or superlative forms

may be

superior

inferior

absolute (positive)

the basic form

good

(bad)

comparative

a form relative to others

analytic

better

worse

synthetic

more good

less good

superlative

the extreme form

analytic

best

worst

synthetic

most good

least good

[nothing is as good]

[nothing is as bad]

nominal adjectives

act as **nouns** referring to a group of people sharing a certain characteristic

preceded by the **definite article**

the blind

the deaf

the infertile

the British

proper adjectives

with initial capital letters

derived from (proper nouns)

Caesarean section (Caesar)

Fallopian tubes (Fallopian)

Graafian follicle (de Graaf)

English scientist

(a scientist **who is** English)

can be problematic with certain nouns

English teacher

(a teacher **who is** English, a teacher **of** English, or both)

some **adjectives** (quasi-adverbs) are idiomatically used with **prepositions** (complex prepositions)

preparatory **to**

prior **to**

pursuant **to**

subsequent **to**

See: [Absolute adjectives](#), [Analytic/synthetic](#), [Comparative/superlative](#), [Dash/hyphen](#), [Determiners](#), [Nominal adjectives](#), [Nouns as adjectives](#), [Position of adjectives](#), [Prepositions](#), [Quasi-adverbs](#)

ALERT Check that the necessary **hyphens** are used to prevent **ambiguity**

Ros interacts with and activates the SH2 domain **containing** tyrosine phosphatase SHP-2

ERROR *Semantics*: ambiguous, **it is unclear** if the domain is related to SH2 or SHP-2

so **this could be interpreted as**

the SH2 domain contains the **SHP-2 phosphatase**

or

the **SHP-2 phosphatase** contains an **SH2 domain**

CORRECT [if the **former** is meant] by

inserting a **comma** and **which** to create a **non-defining clause**

Ros interacts with and activates the SH2 domain, **which** contains tyrosine phosphatase SHP-2

CORRECT [if the **latter** is meant] by

inserting a **hyphen** after **domain** to create a **hyphenated adjective**

Ros interacts with and activates the SH2 **domain-containing** tyrosine phosphatase SHP-2

He said it was made by a **Puerto Rican**-owned company

ERROR *Syntax*: **Puerto Rican** is an adjective that cannot form a **hyphenated** compound adjective

CORRECT by

omitting -owned

He said it was made by a **Puerto Rican** company

replacing *Puerto Rican* by *Puerto Rico*

He said it was made by a **Puerto Rico-owned** company

Absolute adjectives

have a **core** meaning embracing a mathematically **absolute** (*unchangeable*) concept

have no comparative or superlative forms

with no in-between stages

absolute	adequate	complete	dead	entire	equal	fatal	full	final	ideal
identical	impossible	inevitable	infinite	main	minor	perfect	preferable	present	principal
round	sufficient	true	unanimous	unavoidable	unique	universal	whole		

it is **logically impossible** to qualify it by **adverbs**

complete [having all the necessary parts]

equal [the same in quantity, size, degree or value]

full [having no empty space]

identical [the same]

infinite [without limits]

perfect [as good as it possibly can be]

present [in a particular place]

true [in accordance with reality]

unique [the only one of its kind]

something is **either** is complete/equal/full/infinite/perfect/present/same/true/unique
or it is not

but they often have a **secondary**, non-absolute, less precise meaning

with possible **in-between** stages

nearly unique **not** unique but one of a very **few** such items

half full **not** full can hold **50% more**

quite full **not** full holds **>50%**

not quite full **not** full can hold **some more**

nearly full **not** full can hold just **a little more**

that **can be** modified by **grading** adverbs

almost not quite very nearly

half a fraction 50%

nearly very close to almost

quite to a certain extent to a fairly high extent

rather to a certain extent to a fairly high extent

really very thoroughly

very to a high degree

See: [Adjectives](#), [Analytic/synthetic](#), [Comparative/superlative](#)

Attributive/predicative adjectives

attributive descriptive adjectives, modifiers

come **before** the noun, pronoun or noun phrase

single adjectives

adjectival **phrases** **hyphenated** one hyphen

two hyphens

participles

present participle

past participle

adjunct **nouns**

common nouns

noun and **modifier**

The **red** WHO manual

5-μl aliquot

in-vitro fertilisation

p53-dependent autophagy

10-μm-deep chamber

a **five-year-old** child

a **boring** seminar

this **broken** microscope

a **culture** room

the **software design** company

predicative descriptive adjectives

come **after** a linking **verb** as a complement

single words

adjectival phrases

hyphenated if an **adjective**

not hyphenated if a **denominate number**

participles

present participle

past participle

come **after** a **noun**

prepositional phrases

not hyphenated

may be **superior**

absolute (positive)

the basic form

fast

inferior
(slow)

comparative

a form relative to others

analytic

faster

(slower)

synthetic

more fast

less fast

superlative

the extreme form

analytic

fastest

(slowest)

synthetic

most fast

least fast

[nothing is as fast] [nothing is as slow]

They used **fertilisation in vitro**

See: [Adjectives, In silico/situ/vitro/vivo](#)

Position of adjectives

the position of adjectives may

alter the meaning of a sentence

single adjectives

before the noun

The **adopted child** will not find his true parents

[**adopted** means to be part of another family]

Concerned students have difficulty studying

[**concerned** means *worried*]

She gave a long and **involved explanation**

[**involved** means *complicated*]

after the noun

The **method adopted** was adequate for the task

[**adopted** means *chosen*]

The grant will be given to the **student concerned**

[**concerned** means *relevant*]

I'll have a word with the **students involved**

[**involved** means *relevant* or *affected*]

two or three adjectives

position **unimportant**

coordinate adjectives

descriptive attributive (adjunct) or predicative adjectives

modify the noun in the **same** way

are of **equal** importance

are separated by commas

A **fertile, healthy** marmoset

(**any** marmoset which is both **fertile** and **healthy**)

A **healthy, fertile** marmoset

(**any** marmoset which is both **healthy** and **fertile**)

A **clear, binding, legal** document

(**any** document that is **clear** and **binding** and **legal**)

the meaning **does not change** when the **comma** is changed to **and**

A fertile **and** healthy marmoset

(**any** marmoset which is both fertile and healthy)

means the same as

A healthy **and** fertile monkey

(**any** marmoset which is both healthy and fertile)

A clear, binding **and** legal document

(**any** document that is clear and binding and legal)

means the same as

A clear, legal **and** binding document

(**any** document that is clear and legal and binding)

A binding, clear **and** legal document

(**any** document that is binding and clear and legal)

A binding, legal **and** clear document

(**any** document that is binding and legal and clear)

A legal, clear **and** binding document

(**any** document that is legal and clear and binding)

A legal, binding **and** clear document

(**any** document that is legal and binding and clear)

position **important**

cumulative adjectives

descriptive attributive adjectives

modify the noun in **different** ways

are of **unequal** importance [the one(s) **closer** to the noun (the adjunct) **take(s) precedence**]

are not separated by commas

A **fertile healthy** marmoset

(a **healthy** marmoset which is **fertile**)

A **healthy fertile** marmoset

(a **fertile** marmoset which is **healthy**)

A **clear binding legal** document

(a **legal** document that is both **binding** and **clear**)

A **legal clear binding** document

(a **binding** document that is both **clear** and **legal**)

A **binding legal clear** document

(a **clear** document that is both **legal** and **clear**)

the meaning **changes** when their order is **reversed**

A **healthy fertile** marmoset

(primarily a **fertile** monkey)

does not mean the same as

A **fertile healthy** monkey

(primarily a **healthy** monkey)

A **clear binding legal** document

(primarily a **legal** document)

does not mean the same as

A **legal clear binding** document

(primarily a **binding** document)

A **binding legal clear** document

(primarily a **clear** document)

both **coordinate** and **cumulative** adjectives

that **closest to the noun** takes precedence

with a comma

A **clear, binding legal** document

[a **legal** document that is **clear** and **binding**]

A **binding, legal clear** document

[a **clear** documents that is **binding** and **legal**]

A **legal, clear binding** document

[a **binding** document that is **legal** and **clear**]

should not exceed three adjectives

are usually in the order: **determiners + observations (subjective + objective) + adjunct**

qualifier often regarded as **part of the noun** (modifier, an adjective or attributive/adjunct noun)

Determiner	Observation	Size	Shape	Age	Colour	Origin	Material	Adjunct	Noun
Our	modern	large						culture	room
Her			short-sleeved	green				surgical	gown
His	expensive			antique		Dutch			microscope
Three	rare					Japanese		mutant	mice
Their	novel						mouse	epididymitis	model

provide emphasis

when [**mouse** epididymis]

(the epididymis of the mouse)

and [epididymal **development**]

(the development of the epididymis)

are to be combined

the adjective **to be emphasised** is placed **first**

because it will be read **first (from left to right 1,2,3)**

when used alone

the **species** is placed **first**

[**mouse** epididymal development]

(meaning: development [3] of the epididymis [2] of the mouse [1])

when [**male** contraception]

(contraception **for males**)

and [hormonal contraception]	(contraception by means of hormones)
are to be combined	the adjective to be emphasised is placed first because it will be read first (from left to right 1,2,3)
when used alone	the species is placed first [human male contraception] (meaning: contraception [3] for the male [2] of the human [1] species) [human female contraception] (meaning: contraception [3] for the female [2] of the human [1] species)
when contrasting hormonal contraception between men and women	for emphasis the sexes are placed first [Male hormonal contraception is more difficult than female hormonal contraception]
when contrasting types of contraception available for men	for emphasis the types are placed first [Hormonal male contraception is easier to develop than non-hormonal male contraception]
when [epididymal spermatozoa]	(spermatozoa obtained from the epididymis)
[ejaculated spermatozoa]	(spermatozoa obtained from an ejaculate)
and [human spermatozoa]	(spermatozoa obtained from men)
are to be combined	the adjective to be emphasised are placed first because it will be read first (from left to right 1,2,3)
when used alone	the species are placed first [human ejaculated spermatozoa] (meaning: spermatozoa [3] from the ejaculate [2] of humans [1]) [human epididymal spermatozoa] (meaning: spermatozoa [3] from the epididymis [2] of humans [1])
when contrasting spermatozoa from two sources in the same species	for emphasis the different sources are placed first [In this study epididymal and ejaculated human spermatozoa were compared]
when contrasting spermatozoa from the same source in different species	for emphasis the species are placed first [In this study human and monkey epididymal spermatozoa were compared]
when [sperm maturation]	(maturation of spermatozoa)
[epididymal maturation]	(maturation in the epididymis)
and [epididymal spermatozoa]	(spermatozoa from the epididymis)
are to be combined	the process of sperm maturation occurring within the epididymis can only be written one way since sperm epididymal (two adjuncts) makes no sense for emphasis the sperm source is placed first [Epididymal sperm maturation] (meaning: maturation [3] of spermatozoa [2] from the epididymis [1])

See: [Adjectives](#), [Implied meanings of sentences](#), [Position of commas](#), [Position of participles](#)

ALERT Check that **cumulative adjectives** are in the **correct** order

Sperm high motility was observed

ERROR *Solecism*: this means of the high motility (noun) the sperm (qualifier)

CORRECT [if the **high** form of **sperm motility** is meant] by

inverting the order of modifier and adjective

High sperm motility was observed [of the sperm motility, the high type]

Sperm abnormal morphology was higher than usual

ERROR *Solecism*: this means of the abnormal morphology (noun) the sperm (modifier)

CORRECT [if the **abnormal** form of **sperm morphology** is meant] by

inverting the order of modifier and adjective

Abnormal sperm morphology was higher than normal [of the sperm morphology, the abnormal type]

ALERT With **multiple adjectives** check that the meaning is clear

Their lab. has a Japanese-mutant-mouse

ERROR *Semantics*: ambiguous, **it is unclear** what Japanese refers to, the mouse or the mutant

so **this could be interpreted as**

a mutant mouse that is Japanese [Japanese mutant-mouse]

or

a mouse with a Japanese mutant [Japanese-mutant mouse]

CORRECT [if the **former** is meant] by

omitting both hyphens

Their lab. has a Japanese mutant mouse [cumulative adjectives: of the mutant mice, the Japanese one]

CORRECT [if the **latter** is meant] by

omitting the first hyphen

Their lab. has a Japanese-mutant mouse [a hyphenated adjective]

He is an American-English-teacher

ERROR *Semantics*: ambiguous, **it is unclear** what American refers to, the English or the teacher

so **this could be interpreted as** his being

a teacher of English with American ancestry [an American English-teacher]

or

a teacher of American English [an American-English teacher]

	or	
	a teacher with American English ancestry	[an Anglo-American teacher]
CORRECT	[if the 1 st is meant] by	
omitting both <i>hyphens</i>		
	He is an American English teacher	[cumulative adjectives: of the English teachers, the American one]
	He is a teacher of English with American ancestry	
CORRECT	[if the 2 nd is meant] by	
omitting the <i>second hyphen</i>		
	He is an American-English teacher	[a hyphenated adjective]
	He is a teacher of American English	
CORRECT	[if the 3 rd is meant] by	
rewriting <i>the sentence</i>		
	He is a teacher with Anglo-American ancestry	
	She is an Irish-American-English-teacher	
ERROR	<i>Semantics</i> : ambiguous, it is unclear whether Irish and American refer to, language or people	
	so this could be interpreted as her being	
	a teacher of English with Irish-American ancestry	[Irish-American]
	or	
	a teacher of American English with Irish ancestry	[American-English]
	or	
	a teacher of an Irish variant of American English	[Irish-American-English]
CORRECT	[if the 1 st is meant] by	
omitting the <i>second hyphen</i>		
	She is an Irish-American English teacher	[cumulative adjectives: of the English teachers, the Irish-American one]
	She is a teacher of English with Irish-American ancestry	
CORRECT	[if the 2 nd is meant] by	
omitting the <i>first hyphen</i>		
	She is an Irish American-English teacher	[cumulative adjectives: of the American-English teachers, the Irish one]
	She is a teacher of American-English with Irish ancestry	
CORRECT	[if the 3 rd is meant] by	
rewriting <i>the sentence</i>		
	She is a teacher of an Irish variant of American-English	

ADVERBS

Types of adverb

content words			
describe (govern, qualify, modify)	adjectives, adverbs, verbs and clauses		
do not qualify	nouns, pronouns or interjections		
head words of adverb phrases			
provide information			
on the degree, duration, frequency, place, time or manner of			
adjectives	when placed before an absolute adjective (<i>non-absolute</i> meaning)		
	relate to degree	The flask is almost/half/nearly/quite/rather/really/very full	
	when placed before the adjective		
	relate to degree	Statistically significantly higher than the controls	
adverbs	when placed before the adverb		
	relate to degree	Statistically significantly higher than the controls	
gerunds	when placed before the adverb		
	relate to degree	Eating healthily is important	
verbs	when placed after the verb (usual position)		or placed before the verb (for emphasis)
	relate to degree	The sample was centrifuged rapidly	He rapidly centrifuged the sample
	duration	They moved to the old temporarily	They temporarily moved to the old lab.
	frequency	I read my emails first sometimes	Sometimes I read my emails first
	manner	We listened carefully	We carefully listened
	place	He comes here daily	Here he comes now
	time	We cultured the cells yesterday	Yesterday we cultured the cells
entire clauses	when placed before the clause (usual position)		
	reflect an attitude	Allegedly they used it to fund their research	
		Disgracefully he allowed this sort of behaviour to continue	
		Presumably, she will arrive tomorrow	
		Probably, she learned that technique at Harvard	
	or rearranged in the form		
	it is... that	It is alleged that they used it to fund their research	
		It is presumed that she will arrive tomorrow	
		It is probable that she learned that technique at Harvard)	
	it is... of... to	It is disgraceful of him to allow this sort of behaviour to continue	
	may be	superior	inferior
absolute (positive)	the basic form	well	(badly)
comparative	a form relative to others		
	analytic	better	worse
	synthetic	more well	less well
superlative	the extreme form		
	analytic	best	worst
	synthetic	most well	least well

some adverbs

are made from **adjectives** by the **addition of the suffix -ly**
 are **flat** adverbs (the same as the adjective)
 are also **conjunctions** (conjunctive adverbs, adverbs of concession)

[nothing is done as well] [nothing is done as badly]

lastly	quickly	secondly	slowly	thirdly
fast (not fastly)	first (not firstly)			
albeit	although	anyway	besides	consequently
however	indeed	meanwhile	moreover	nevertheless
therefore	while	whereas		nonetheless
hardly	never	nowhere	rarely	scarcely
			seldom	

are followed by **inversion** of the **verb** and **subject**

quasi-adverbs (complex prepositions)

adjectives idiomatically used with prepositions

according to contrary to irrespective of preliminary to

See: [Absolute adjectives](#), [Adjectives](#), [Adverb/adverbial phrases](#), [Analytic/synthetic](#), [Comparative/superlative](#), [Conjunctions](#), [Fast/fastly](#), [First/firstly](#), [Inversion of verbs and subjects](#), [Position of adverbs](#), [Prepositions](#), [Quasi-adverbs](#)

ALERT Check that **adverbs** are positioned correctly

He affixed **firmly** the camera on the microscope

STYLE *Word order:* adverbs defining verbs or verbal phrases come **before** the verb or **after** the object

CHANGE by **moving** the **adverb**

before the **verb**

He **firmly affixed** the camera on the microscope

after the **object**

He affixed the **camera firmly** on the microscope

I want him to write the manuscript so **badly**

ERROR *Semantics:* **badly** is an adverb and **write** is the nearest word it can complement

so this implies that the manuscript should be written badly

CORRECT [if the **wanting** is urgent] by

rewriting the sentence by **moving so badly** before **want**

I so **badly want** him to write the manuscript

Adverbials

a grammatical **function not a word class**

add information to that of the verb

are usually

adverbs

answer the questions

how?

when?

where?

may be

nouns

are often

prepositional phrases

when?

where?

The spermatozoa are swimming **slowly**

I'll culture the cells **tomorrow**

Leave your lab. coat **outside**

I'll see you **Tuesday**

They cultured the cells **in the new laboratory**

They went by train **to the meeting**

Eat your sandwiches **in the social room**

may be

adjectival clauses

The values are increasing, **as you can see for yourself**

adverbial **adjectives**

are **integral** to the sentence

not optional modifiers: **cannot** be [removed] without losing meaning

answer the questions

how frequently

in what manner

We test the students **[twice a week]**

The plan was executed **[beautifully]**

Jen wrote manuscripts **[quickly]**

to what degree

when

where

The plate is **[very hot]**

I'll see you **[tomorrow]**

Yechen is **[outside]**

Put your lab. coat **[here]**

adverbial **conjunctions** (link clauses)

not integral to the sentence

optional modifiers: **can** be [removed] without losing meaning

adverbs

modify actions

They **[additionally]** published an abstract online

conjunctive

link statements

We thought comment silly; **[furthermore,]** we concluded he was wrong

I thought his talk was good; **[however,]** it was too long

The cells swelled in quinine; **[therefore]** K⁺-channels are involved

The Impact Factor was too low; **[consequently]** we sent the paper elsewhere

His talk was too long; **[nevertheless]** it was well-structured

sentence

modify a whole clause

[Unfortunately,] we have no scalpels left

[Furthermore,] we concluded that no action was necessary

prepositional phrases

link statements

They fed the males ornidazole **[in addition to]** α-chlorohydrin

adverbial **disjuncts**

not part of the main clause

optional modifiers: **can** be [removed] without losing meaning

adverbs

supply a comment

[Frankly,] it is none of your business

[Honestly,] I don't know why you bother

[Truly,] he is a genius

prepositional phrases

supply a comment

[To be frank,] it is not his bet manuscript

[To be honest,] I think he should resign

[To be truthful,] he should have retired years ago

See: [Adverbial clauses](#), [Adverb/adverbial phrases](#), [Adverbs](#), [Word modifiers](#)

Position of adverbs

the **position of adverbs** may **alter the meaning** of a sentence

adverbs usually modify the **words immediately to the right** of them

also [in addition]	We also <i>showed</i> that protein increased secretion	[we showed the protein did other things]
	We showed that protein also <i>increased</i> secretion	[the protein increased things other than secretion]
even [to emphasise the unusual]	Even <i>he</i> wrote the preface	[he usually writes nothing]
	He even <i>wrote</i> the Preface	[he usually does not write the Preface]
	He wrote even <i>the Preface</i>	[he usually writes other parts]
	Even <i>I</i> saw her at the seminar	[I am usually unobservant]
	I even <i>saw</i> her at the seminar	[in addition to hearing her]
	I saw even <i>her</i> at the seminar	[she rarely goes to seminars]
	I saw her even <i>at the seminar</i>	[she usually goes only for the buffet]
	I saw her at even <i>the seminar</i>	[in addition to the buffet]
	(inverted order for emphasis)	
	I saw her at the seminar <i>even</i>	[she usually goes for the buffet only]
merely	I merely <i>saw</i> her at the seminar	[I saw her but did not speak to her]
	I saw her merely <i>at the seminar</i>	[I saw her nowhere else]
	I saw her at merely <i>the seminar</i>	[not at a more important function]
only	Only <i>I</i> saw her at the seminar	[no one else saw her]
	I only <i>saw</i> her at the seminar	[I saw her but did not hear her]
	I saw only <i>her</i> at the seminar	[I saw no one else]
	I saw her only <i>at the seminar</i>	[I saw her nowhere else]
	I saw her at only <i>the seminar</i>	[I saw her at no other function]
	I saw her at the only <i>seminar</i>	[there was only one seminar]
really	This is really <i>an attempt</i> to listen to students' views	[the attempt is stressed]
	This is an attempt really <i>to listen</i> to students' views	[the listening is stressed]

adverbs may be placed **before** or **after** a verb

boldly	before a verb	generally relates to the approach to it	
	Expect him boldly <i>to answer the questions</i>		[it was bold [brave] of him to answer]
	after the verb	generally relates to the manner of its execution	
	Expect him to answer the questions <i>boldly</i>		[to answer in a bold [confident] manner]
disgracefully	at the beginning of the sentence	defines the whole clause	
	Disgracefully , <i>he failed every examination</i>		[It was disgraceful that he failed every exam]
	at the end of the sentence	defines the verb it follows	
	He <i>failed</i> every examination disgracefully		[He failed by a disgracefully wide margin]

See: [Adverbs](#), [Position of modifiers](#), [Split infinitives](#)

DETERMINERS

Types of determiner

function words

elements of grammatical structure, **not** formal word classes

act as **non-descriptive adjectives**

precede and **define** **nouns** to indicate whether or not they are **specific (definite)** or **general (unspecific)**

articles										
(specific)	[the definite article]	the								
(general)	[the indefinite articles]	a	an							
demonstrative										
(specific)	[demonstrative adjectives/pronouns]	that	these	this	those	such				
interrogative										
(specific)	[interrogative adjectives/pronouns]	what	whatever	which	whichever	who	whoever	whose		
personal										
(specific)	[personal pronouns]	us	scientists	we	scientists					
phrasal										
(specific)		a lack of		a pair of	all of	both of	each of			
		either of		enough of	neither of	none of				
(general)		a couple of		a deal of	a few of	a lot of	a majority of			
		a number of		level of	lots of	most of	plenty of			
possessive										
(specific)	[possessive adjectives/pronouns]	my	your	his	her	its	our	their	whose	
(specific)	[nominal possessives]									
	[pronominal possessive]	one's		the scientist's	the students'					
quantitative (quantifiers)										
(specific)	amounts and numbers									
	quantitative adjectives for									
	count nouns	all	both	each	either	enough	every	neither	no	
	mass nouns	all of the	enough	none of the		no	not any	not one of		
	fractions	one in N								
	multiples	double	half	three times	treble		triple	twice		
	numbers (numeral adjectives)									
	cardinal numbers	one	two	three						
	ordinal numbers	first	second	third						
	sequential words	last	next	penultimate	previous		subsequent			
(general)	amounts and numbers									
	partitive constructions	singular	an article of	a pair of	one of					

	plural	amounts of reports of	examples of samples of	levels of types of	pieces of variations of	
quantitative adjectives for count nouns		another several	any some	few sufficient	many much	more some
mass nouns		less	little	more	much	some sufficient
fractions	singular	a fraction of		a percentage of	a proportion of	the majority of
	plural	fractions of		percentages of	proportions of	

can be used in combination

a specific determiner (article) followed by a descriptive adjective	the smart students	these new lecturers
the unspecific quantifiers both and all followed by a specific determiner (article)	both the students	all these lecturers
a combination of determiners followed by a descriptive adjective	both the smart students	all these new lecturers

when **descriptive adjectives** occur in the same noun phrase as a **determiner**
the **determiner** comes **first**
The famous scientist took up his post

when an **adjective modified by the determiners as, how, so, too** occurs in the same noun phrase as the **indefinite article**
the **determiner** comes **second**
He was **as rude a** student as I have ever met
I know **how good a** scientist she is
That was **too good an** opportunity to miss
It was **so terrible a** disease that the patient was placed in quarantine

when a **plural determiner** precedes a **singular noun**
the verb is **singular, not plural**
many a [single item] **is**
more than one [single item] **has**

Many a scientist has studied this problem
More than one famous scientist has admitted plagiarism

See: [Adjectives](#), [Partitive constructions](#), [Pronouns](#), [Word modifiers](#)

Partitive constructions

quantitative determiners (quantifiers)

grammatical constructions used to

indicate that only a part of a whole is referred to	a couple of	a fraction of	a lot of	a majority of	a number of
	a portion of	a proportion of	a series of	some of	one of
form the singular of nouns that lack a singular form					
mass nouns	an article of news				
concrete nouns	a pair of forceps	one of the offspring			
take a singular verb	An article of news was circulated to all departments	A pair of forceps was sterilised before the operation			
	One of the offspring was infertile				
form the plural of nouns that lack a plural form					
mass nouns	rounds of passage	samples of semen	amounts of waste		
	pieces of work				
concrete nouns	sources of contamination	amounts of data	signs of damage		
	areas of debris	lines of evidence			
abstract nouns	types of behaviour	levels of competence	areas of cooperation		
	variations of incidence	sources of interference	examples of nuisance		
take a plural verb	Various lines of evidence were presented to support their view	Several types of behaviour were exhibited by the treated animals			
	Many signs of damage were obvious				
even if it seems otherwise	one [singular] of the/those [plural group] that/which/who are				
	This must be one of the more difficult books that have been published				
	[Of the more difficult books that have been published, this must be one]				
	She is one of those students who are never satisfied with their results				
	[Of those students who are never satisfied, she is one]				
without a number are considered a plural indivisible noun					
used with fewer not less	Add fewer drops of acid to adjust the pH				
	We now have fewer samples of semen to handle				
with a number are considered a unit (a denominate number)					
used with less not fewer	Add less than two drops of acid to adjust the pH				
	He gave less than three samples of semen overall				
	We need three microscopes , not one less				

See: [Determiners](#), [Indefinite third person pronouns](#), [Singular/plural verbs](#)

Presence of the definite article

the **presence or absence** of the **definite article** may **alter the meaning** of a sentence

without an article	Blind people need assistance in crossing the road	[blind is an adjective , describes certain people]
with the definite article	The blind need assistance in crossing the road	[blind is a nominal adjective , refers to all blind people]
without an article	Chinese people have black hair	[Chinese is a proper adjective , describes certain people]
with the definite article	The Chinese have black hair	[Chinese is a nominal adjective , refers to all Chinese]
without an article	Free clinical tests are given to infertile couples	[infertile is an adjective , describes certain couples]
with the definite article	Free clinical tests are given to the infertile	[infertile is a nominal adjective , refers to all infertile people]

See: [A/the blind](#), [A/the sick](#), [An/the aged](#), [An/the infertile](#), [Nominal adjectives](#)

PREPOSITIONS

Adpositions

words that show the relation of a **noun** or **pronoun** to some other word (the **complement** or **object**) in a sentence

circumpositions	enclose the complement	He will do it from now on
postpositions	after the complement	I submitted the manuscript some time ago He was studying the whole night through He applied for the job, his fears notwithstanding
prepositions	before the complement	I submitted the manuscript to her It was initially placed on the ground She did it without any help

See: [Prepositions](#)

Prepositions

function words

elements of grammatical structure

indicate the **relationship** between parts of speech to produce a phrase

describe (govern, qualify, modify)

nouns and **pronouns**

do not qualify

infinitives—which already have the infinitive marker preposition (**to**)

head words of **prepositional phrases**

simple prepositions

usually short words

relating to relationships that are

spatial	above	at	behind	below	between	by	from	in	inside	into		
	next to	of	on	onto	out	outside		over	to	under	with	
temporal	after	before	during	since	while							
logical	because	despite	unlike									

used in sentences that contain **direct** and **indirect objects**

to	She gave a scalpel to her colleague
from	He borrowed a book from his professor

with inversion of **direct** and **indirect** objects

to is omitted	She gave her colleague a scalpel
from is not omitted	He borrowed from his professor a book

used when changing a verb from the **active** to **passive** voice

active	The surgeon excised the tumour			[something done by the surgeon (to the tumour)]		
	A student read a paper to Dr Kahn			[something done by the student (to Dr Kahn)]		
passive	The tumour was excised by the surgeon			[something done to the tumour (by the surgeon)]		
	Dr Kahn was read a paper by a student			[something done to Dr Kahn (by the student)]		
	A paper was read to Dr Kahn by his student			[something done to the paper (by the student)]		
may also be participles	according	assuming	barring	concerning	considering	depending
	during	excepting	failing	following	given	granting
	granted	including	notwithstanding		owing	pending
	provided	regarding	respecting	seeing	speaking	touching

complex prepositions (quasi-adverbs)

simple prepositions idiomatically used with **adjectives/participles** acting as **adverbs** (informal)

according **to** contrary **to** irrespective **of** preliminary **to** preparatory **to**

See: [Active/passive voice](#), [Different for/from/in/than](#), [Phrases](#), [Presence of prepositions](#), [Prepositional phrases](#), [Prepositions](#), [Quasi-adverbs](#)

ALERT Check that **in** **does not** govern an infinitive

To be jobless **in** London must be different from that **in** Münster and Reading

ERROR *Syntax*: infinitives **do not** govern prepositions (**in**)

CORRECT by **replacing** the **infinitive** by a **gerund**

Being jobless **in** London must be different from that **in** Münster and Reading

Being jobless must be different **in** London from that **in** Münster **or** Reading

Presence of prepositions

the **presence** or **absence** of **prepositions** may **alter the meaning** of a sentence

with repetition of the preposition **to** in a list

with no serial comma	Jennifer introduced me to Stanley, to her supervisor and to her friend
with a serial comma (before and)	Jennifer introduced me to Stanley, to her supervisor, and to her friend
the meaning is clear	(I was introduced to three people: Stanley/supervisor/friend) [the prepositions precede their object]

without repetition of **to** in a list

with no serial comma	Jennifer introduced me to Stanley, her supervisor and her friend
the meaning is different	(I was introduced to one person: Stanley, who is both supervisor and friend) [the single comma separates two appositive nouns (supervisor, friend) describing Stanley]
with a serial comma (before and)	Jennifer introduced me to Stanley, her supervisor, and her friend
the meaning is different	(I was introduced to two people: Stanley the supervisor/friend) [the pair of commas enclose one appositive noun (supervisor) describing Stanley]

Position of prepositions

the **position** of **prepositions** may **alter the meaning** of a sentence

they modify the **words immediately to their right**

Animals were examined 14 days after treatment	(14 days after the end of treatment)	[after 14 days with no treatment]
Animals were examined after 14 days of treatment	(14 days after the beginning of treatment)	[after 14 days with treatment]

CONJUNCTIONS

Types of conjunction

function words

elements of grammatical structure

join two grammatical equivalents

head words of **conjunctive phrases**

category	simple	one word	and	as	but	yet			
	complex	more than one word	as far as	as long as	as soon as	as well as	insofar as	so long as	
	discontinuous	more than one separated words	both... and...	if... then...	not only... but also...				
role	coordinating	conjunctions							
		link items of equal importance							
	non-adversative	similar items	and	for	then				
		alternative items	or	nor					
	adversative	contrasting items	but	yet					
	discontinuous correlative	conjunctions							
		link related items	similar items	both... and...	if... then...	not only... but also...			
			alternative items	either... or	neither... nor	whether... or	on the one hand... on the other		
	subordinating	(non-coordinating) conjunctions							
		may link items of unequal importance							
		introduce subordinate sentence parts	and in addition		as well as				
		may be of adverbial sense (conjunctive adverbs) of							
		an alternative	whereas						
		a comparison	as	than					
		a concession	albeit	although	as though	though			
		a condition	as if	if	whether				
		an interrogative	how	when	what	who	why		
		a reason	as	because	for	since	so	so that	
		a time	after	as soon as					
		may introduce noun clauses							
		indirect questions	how	when	whether	who	why		
		indirect statements	that						
		some do not introduce noun clauses	although	because	if	whereas			

See: [A-/poly-syndeton](#), [And](#), [But](#), [Conjunction/conjunctive phrases](#), [Ellipsis](#), [Idiomatic word usage](#), [Or](#), [Phrases](#), [Relative clauses](#), [Yet](#)

ALERT Check if a **conjunction** is necessary

Be careful the cable does not lie flat

ERROR *Semantics*: ambiguous, **it is unclear why** care is needed

so **this could be interpreted as** a warning to

technicians: only **a flat** cable functions

or

the public: people may trip over a cable that **is not flat**

CORRECT [if the **former** is meant] by

inserting **if**

Be careful **if** the cable does not lie flat

rewriting the sentence

Take care that the cable lies flat

CORRECT [if the **latter** is meant] by

inserting a **colon**

Be careful: the cable does not lie flat

rewriting the sentence

Take care that you do not trip over the cable

ALERT Check that **conjunctions** join grammatical equivalents

He was a man of great wisdom **and** whose charm everyone admired

ERROR *Syntax*: **and** joins a **phrase** (of great wisdom) and a **clause** (whose charm everyone admired)

CORRECT by

omitting the **conjunction**

He was a man of great wisdom whose charm everyone admired

inserting a **verb**

He was a man **who had** great wisdom **and** whose charm everyone admired [clause **and** clause]

rewriting the sentence by removing a **verb**

He was a man of great wisdom **and** much-admired charm [phrase **and** phrase]

PUNCTUATION

Types of punctuation

indicate relationships between

letters, words, phrases, clauses, sentences

to **provide** the required meaning

to **indicate** pause lengths for easier reading

enclose

letters, words, numbers

comma (,)
inverted comma (" ", ' ')
long (Em) dash (—)
parentheses (())
square brackets ([])

The professor, having anaesthetised the animal, started the operation.
He said, "The phrase 'according to WHO' is often written to impress."
This has become—as we all know—a citation classic.
The European Academy of Andrology (EAA) recommends WHO (2010).
Jones [1978] suggested that the epididymus [*sic*] controls sperm storage.

represent

abbreviations
contractions
decimal points
factorials
multiplication
possession
relationships of words

dot (.)
apostrophe (')
point (.)
exclamation mark (!)
raised dot (·) [interpunct]
apostrophe (')
slash (/, \)

e.g. i.e. Prof. U.S.
can't it's he's
37.0°C 42.36 ± 7.5
3! = 6
RCF = 1.118·10⁻⁵·R·N²
Dr Cooper's lab. coat. The scientists' outing.
mg/ml http://scmp.com C:\windows Brackets

join

parts of words/letters/numbers
whole words/letters/numbers
parts of a sentence

hyphen (-)
short (En) dash (—)
semicolon (;)
colon (:)

oligo-zoospermia thirty-three 20-µm-deep
red-green dichroism the S-H bond 32–34°C
Be careful; the cable does not lie flat.
Be careful: the cable does not lie flat.

show pauses

between spoken words for various periods

shortest
short
short
long
long
longer
longest

short (En) dash (—)
hyphen (-)
comma (,)
semicolon (;)
colon (:)
long (Em) dash (—)
ellipsis (...)

Heat the S-H compound for 5–10 min at 32–34°C
E-P-I-D-I-D-Y-M-I-D-I-S
Hand me the scissors, forceps, suture thread and sterile saline.
Look at the monitor; the cells are dividing.
Scale bar: 20 µm.
A life in science—40 years meandering in the epididymis.
Just look at this contamination...

separate

arithmetic operations
elements of domain names
syllables

space
dot (.)
hyphenation point
raised dot (·) [interpunct]
space

5 – 4 = 1 5 + 4 = 9
www.epididymis.com
syl·la·ble
syl·la·ble
syl la ble

terminate

sentences, paragraphs
direct questions
exclamations, interjections

full stop (.)
question mark (?)
exclamation mark (!)

followed by a space This is an epididymis. This is an epididymal cyst.
followed by a space Is this an epididymal cyst or a spermatocoele? Or isn't it?
followed by a space This is an enormous spermatocoele! I don't believe it!

See: [Abbreviation/acronym/contraction/initialism](#), [Brackets](#), [Choice of punctuation](#), [Comma splice](#), [Commas](#), [Dash/hyphen](#), [Direct/indirect speech](#), [Dot/full stop/period/point](#), [Ellipsis](#), [Exclamation/interjection](#), [Full stop/colon/semicolon](#), [Inverted commas](#), [Position of commas](#), [Presence of commas](#), [Presence of hyphens](#), [Sentences](#), [Slash/solidus](#), [Spaces](#)

ALERT Check that a **question** mark only follows a **direct** question

Cooper asked if it were possible for spermatozoa to take up epididymal osmolytes?

ERROR *Syntax*: this is an **indirect** question (the question's contents being introduced by **if**), requiring **no** question mark

CORRECT by

replacing the **question mark** by a **full stop**

Cooper asked if it were possible for spermatozoa to take up epididymal osmolytes.

replacing the **indirect question** by a **direct one**

Cooper asked, "Is it possible for spermatozoa to take up epididymal osmolytes?"

Typographical signs

ampersand	&	the 27 th letter of the Roman alphabet 'and' for closely connected items	from '... X-Y-Z and per se and ' (per se and, and on its own) Marks & Spencer Merck, Sharp & Dohm
asterisks	*	indicate footnotes at bottom of page a date of birth	(1 st choice) in order *, **, *** (2 nd choice †) Einstein (*1879)
at sign	@	at a rate of part of email addresses	3 lb @ \$5 per pound = \$15 xyz@abc.com
daggers	†	indicate footnotes at bottom of page a date of death	(second choice, after *) in order †, ††, ††† (3 rd choice ‡) Melville (†1891)
double daggers	‡	indicate footnotes at bottom of page	(third choice, after *, †) in order ‡, ‡‡, ‡‡‡
octothorpe	#	hash tag metadata tag for internet number sign before a number (U.S.) pound (weight) sign after a number (U.S.)	#epididymis #3 (no. 3) 3# (3 lb)
pilcrow	¶	indicates paragraph beginning	
silcrow	§	indicates section beginning	
	SM	services mark	
	TM	trade mark	
	®	registered trademark	
	©	copyright mark	
	®	recording copyright mark	
	€	average value	

NOTE the order of **footnote symbols** is dictated by journal style

Slash/solidus

slash	forward slash, virgule (/)		
	steeper angle than the solidus		
	on most keyboards		
	may mean	a ratio	male/female
		and	frozen/thawed
			clinician/paediatrician
		division	4/2 = 2
		of	Page 3/14
		or	clinician/paediatrician
		per	mg/ml
	may link	associated words, as in a glossary entry	Per cent/percentage/percentage of/percentage point
	used in	some computer program paths	https://www/
		in phonetics	for enclosing phonemes /æ/
	does not mean plus, with		
	back slash, reverse solidus (\)		
	steeper angle than the solidus		
	not on most keyboards		
	used in	some computer program paths	C:\windows
solidus	forward stroke (/)		
	less steep an angle than the forward slash		
	not on most keyboards		
	used in	fractions	(¼, ½, ¾)

See: ['And/or'](#), ['He/she'](#), ['Her/his'](#)

ALERT Check whether a **slash** should be **replaced** by **more informative words**

To maintain sterility, the culture medium contained penicillin/streptomycin

ERROR *Semantics*: ambiguous, **it is unclear** whether **either** or **both** of the slash-jointed compounds are added

CORRECT [if **both** were added] by

replacing the slash by and

To maintain sterility, the culture medium contained penicillin **and** streptomycin

using a hyphenated adjective and noun

To maintain sterility, the culture medium contained a **penicillin-streptomycin mixture**

Tight junctions separate the luminal and basolateral/serosal compartments

ERROR *Semantics*: ambiguous, **it is unclear** **what** the slash-jointed words refer to: **two** compartments or **one** compartment with **two** names

CORRECT [if **one of two** compartments is meant] by

replacing the slash by either the... or

Tight junctions separate the luminal and **either the** basolateral **or** serosal compartments

CORRECT [if **each of two** compartments is meant] by

replacing the slash by and

Tight junctions separate the luminal, basolateral **and** serosal compartments

CORRECT [if there is one compartment with **alternative names**] by

enclosing the alternative in brackets

Tight junctions separate the luminal and basolateral (**serosal**) compartments

Tight junctions separate the luminal and basolateral (**or serosal**) compartments

ALERT Check the **meaning** when a **slash** is used with numbers

This is a sterile work-bench with room for 1/2 places

ERROR *Semantics*: ambiguous, the slash here **could be read as** a solidus to mean one half (½)

CORRECT by **replacing the slash by or**

This is a sterile work-bench with room for 1 **or** 2 places

Dash/hyphen

dash represents **a pause**

long dash (Em dash/Em rule/mutton)

as long as an **upper case M** (*m* for mutton) [-]

twice the length of a **short (En) dash/minus** [-]

four times the length of a **hyphen** [-]

for **separating words**

with no space either side

single Em dash

The epididymis—a view from retirement

(**is not** followed by a capital letter)

two Em dashes

Can be used—very effectively—to emphasise the enclosed words

(the alternative form of the **En dash** with space below)

to create in **Word**

type a letter, a space, **one hyphen**, a space, a letter [w - w]

hitting return or spacebar gives an En dash [w – w]

short dash (En dash/En rule/nut)

as long as a **lower case N** (*n* for nut)/**minus** [-]

half the length of a long (Em) dash		[—]				
twice the length of a hyphen		[–]				
for joining letters and figures						
with no space either side						
single En dash	figures	250–300°C	two temperatures	from 250 to 300 degrees		
		65–75% yield	two values	from 65 to 75% yield		
	letters	S–H bond	two atoms	sulphur to hydrogen bond		
	names	Harber–Weiss reaction	two people	one reaction		
	words	red–green dichroism	two colours	red to green dichroism		
for separating words						
with a space either side						
two En dashes		Can be used – as here – to separate emphasised words (the alternative form of the Em dash above)				
to create in Word						
type a letter, no space, two hyphens , no space, a letter			[w—w]			
hitting return or spacebar gives an En dash			[w—w]			
hyphen	represents no pause					
as long as a lower case F (f)		[–]				
half the length of a short (En) dash/minus		[–]				
quarter the length of a long (Em) dash		[—]				
no space either side						
for aiding pronunciation		co-operation	not coop-eration			
		co-ordinate	not coor-dinate			
		un-ionised	not union-ised			
for demarcating prefixes		anti-apoptotic	extra-tubular	oligo-astheno-terato-zoospermia		
for indicating suspensive hyphenation						
(where multiple prefixes join a common word)						
		pro- and anti-apoptotic pathways	(pro-apoptotic/anti-apoptotic)			
		hypo- and hyper-tonic solutions	(hypo-tonic/hyper-tonic)			
		intra- or inter-observer	(intra-observer/inter-observer)			
for merging concepts						
to form compound attributive adjectives						
words		blood-borne	carried in the blood			
		second-highest	the second in rank			
		third-best	the third in rank			
		in-vitro	outside the body			
		blue-green	one colour, between blue and green			
		end-point titration	a titration determined by the end-point			
		ethyl-acetate-soluble solute	a solute soluble in ethyl acetate			
		head-to-head agglutination	the sites of agglutination			
		severe-to-profound inflammation	a degree between severe and profound			
figures and words		7-item list	7 items comprise the list			
		3-fold increase	3-fold describes the increase			
		20-µl aliquot	20-µl describes the aliquot			
		20-µm-deep chamber	20-µm-deep describes the chamber			
		20-day-old monkey	20-day-old describes the monkey			
names		Lubicz-Nawrocki	one person, hyphenated name			
		Orgebin-Crist	one person, hyphenated name			
for showing permissible end-of-line word-breaks (Syllabification)						
for spelling words in letters						
		E-P-I-D-I-D-Y-M-I-S				
for writing numbers as words						
		sixty-three	sixty-third			
always necessary						
for meaning		un-ionised (not ionised)	versus	unionised (made part of a union)		
with non		non-allergenic	non-hormonal	non-Gaussian		
but not for						
whole words		nonsense	nondisjunction			
foreign words		non sequitur				
often necessary						
between identical letters		night-time	co-operation			
between vowels		anti-apoptotic	intra-observer	intra-ocular	pre-operative	pro-angiogenic
after prefixes		extra-tubular	hypo-tonic	normo-zoospermia	post-operative	pre-menstrual
often omitted						
from familiar words		cooperation	intraobserver	preoperative	reinnervation	extratubular
		hypotonic	normozoospermia	postoperative	premenstrual	

See: [Adjectives](#), [Deduction/subtraction](#), [Minus sign](#), [Syllabification](#)

ALERT Check whether a **hyphen** is needed

The epididymis is the **third best** organ in man

ERROR *Oxymoron*: **third** implies **more than one** but there is **only one superlative (best)**: nothing is better)

CORRECT by **making a hyphenated adjective**

The epididymis is the **third-best** organ in man

People living **in-** and **outside** China

ERROR *Syntax*: ambiguous, the hyphen in unpaired; **it is unclear** what **in** should be followed by

CORRECT by inserting a **hyphen** after **out**
People living **in-** and **out-**side China

BPA has anti-androgenic and oestrogenic activities
ERROR *Semantics*: ambiguous, **it is unclear** whether a hyphen has been omitted
so **this could be interpreted as** BPA having
oestrogenic activity
or
anti-oestrogenic activity

CORRECT [if the **former** is meant] by
inserting **two commas** to enclose and emphasise the other action

BPA has anti-androgenic, **and oestrogenic**, activities

CORRECT [if the **latter** is meant] by

inserting a **hyphen**

BPA has anti-androgenic and -oestrogenic activities

repeating **anti-**

BPA has anti-androgenic and **anti-oestrogenic** activities

This should help the students who collect cardboard and **drink** cans to increase their income
ERROR *Semantics*: ambiguous, **it is unclear** if drink is used as a **verb** or a **noun** used as an adjective
so **this could be interpreted as** **and** conjoining

two **nouns** (**cardboard** and **drink cans**) [drink used as an **adjunct**]

or

two **clauses** (**collect cardboard** and **drink cans**) [drink used as a **verb**]

CORRECT [if drink is used as an **adjunct**] by

inserting a **hyphen** between the qualifier and the noun, so that **and** conjoins two nouns

This should help the students who collect cardboard and **drink-**cans to increase their income

Presence of hyphens

the **presence or absence of hyphens** may **alter the meaning of adjectives**

without a hyphen	The efficacy of this approach for English speaking children is reported [English and speaking are unequal cumulative adjectives] (of the not mute children, those of English nationality)
with a hyphen	The efficacy of this approach for English-speaking children is reported [English-speaking is a hyphenated compound adjective] (children whose mother-tongue is English)
without a hyphen	The new technique is a sound detection procedure [sound and detection are unequal cumulative adjectives] (the detection procedure is a robust one)
with a hyphen	The new technique is a sound-detection procedure [sound-detection is a hyphenated compound adjective] (a procedure that detects sound)
without hyphens	The categories of inflammation range from severe to profound [severe and profound are unequal cumulative adjectives] (two distinct categories indicating a range)
with hyphens	He had severe-to-profound inflammation [severe-to-profound is a hyphenated compound adjective] (neither severe nor profound, but in between)
with two hyphens	The epididymides were taken from 3 month-old mice [month-old is a hyphenated compound adjective] (three mice, each one month of age)
with three hyphens	The epididymides were taken from 3-month-old mice [3-month-old is a hyphenated compound adjective] (an unspecified number of mice, each aged 3 months)

See: [Dash/hyphen](#)

Dot/full stop/period/point

dot	the punctuation that appears at the end of a sentence in abbreviations in domain names	This is a statement. e.g. i.e. Prof. www.epididymis.com
	the term used for the domain name dot	double U double U double U dot epididymis dot com
full stop	the term used for the end-of-sentence dot	This punctuation at the end of a sentence is a full stop .
period	confusion with American English	
point	the punctuation separating the fraction from the integer in decimal numbers	3.14 0.25
	the term used for the decimal point	three point one four zero point two five

See: [Decimal numerals/places/points](#), [Full stop/colon/semicolon](#), [Fraction/percentage/proportion/ratio](#), [Punctuation](#), [Sentences](#)

Full stop/colon/semicolon

full stop	at the end of sentences followed by a capital letter of the first following word	
	terminates imperative sentences	No admittance without authorisation.
	declarative sentences	The epididymis is an important organ. It performs three main functions.
	separates sentences with ideas that are not immediately connected	Be careful. The cable does not lie flat.

		[two statements: to be careful and to notice the uneven cable] He watched the video-camera screen. The cultured cells were dividing. [two statements: what he watched and what he observed] Don't guess. Use a timer or watch. [two statements: not to guess but to use a timer or watch]
colon	<p>in lists</p> <p>separates the contents of a list</p> <p>within compound sentences</p> <p>not followed by a capital letter</p> <p>the words before the colon should form a complete statement by themselves</p> <p>separates a general from a specific clause</p> <p>can be replaced by , namely...</p> <p>clauses with consequential ideas</p>	<p>The solution contained: 2 g glucose, 3 g NaCl, 4 g urea...</p> <p>The treatment had an effect on sperm function: motility</p> <p>The treatment had an effect on sperm function, namely motility</p> <p>Be careful: the cable does not lie flat.</p> <p>[one statement: the colon introduces what to be aware of] He watched the video-camera screen: the cultured cells were dividing.</p> <p>[one statement: the colon introduces what was observed] Don't guess: use a timer or watch.</p> <p>[one statement: the colon introduces what action to take] Scale bar: 20 µm</p> <p>[one statement: the colon introduces the bar length]</p>
semicolon	<p>in lists</p> <p>separates the contents of a list</p> <p>within compound sentences</p> <p>not followed by a capital letter of the first following word</p> <p>separates a general clause from a related one</p> <p>clauses of slightly connected ideas</p>	<p>(Jones et al., 1981; Cooper 1982; Hinton et al., 1985)</p> <p>The treatment reduced sperm vitality; sperm motility was affected.</p> <p>[one statement: semicolon precedes the aspect observed] Be careful; the cable does not lie flat.</p> <p>[one statement: semicolon precedes the reason for being careful] He watched the video-camera screen; the cultured cells were dividing.</p> <p>[one statement: semicolon precedes what was watched] Don't guess; use a timer or watch.</p> <p>[one statement: semicolon precedes alternatives to not guessing]</p>

See: [Comma splice](#), [Commas](#), [Dash/hyphen](#), [Lower/upper case](#), [Dot/full stop/period/point](#), [Position of commas](#), [Presence of commas](#), [Punctuation](#)

ALERT Check whether a **comma** is sufficient

The rule bans the use of non-accredited sources of chemicals, sterile culture and propagation of cell lines are to be performed by experienced technicians only

ERROR *Semantics:* discourteous, the reader **expects** that **sterile culture** and **propagation** are **banned** and **then realises otherwise** [sterile culture and propagation are to be done only by experienced technicians]

CORRECT by **replacing** the **comma** by a **semicolon**, to separate connected but not equivalent ideas

The rule bans the use of non-accredited sources of chemicals; sterile culture and propagation of cell lines are to be performed by experienced technicians only

Presence of punctuation

the **presence or absence of punctuation** may **alter the meaning** of a sentence

A woman, without her man, is nothing. [punctuated by men]

A woman; without her, man is nothing. [punctuated by women]

Position of full stops

the **position of full stops** between clauses may **alter the meaning** of a sentence

I need a student who knows what microscopy is all about. You are well-trained. People who are not like you admit to not knowing.
[you want this student]

I need a student who knows what microscopy is. All about you are well-trained people who are not like you. Admit to not knowing.
[you do not want this student]

See: [Brackets](#), [Position of punctuation with brackets](#), [Position of punctuation with inverted commas](#), [Sentences](#)

Position of semicolons

the **position of semicolons** may **alter the meaning** of a sentence

with **as** **after** an **adjectival clause** [as is a relative pronoun]

I'm not a fool as you; I spend my time wisely (as you [are]) [you spend your time **unwisely**]

before an **adjectival clause** [as is a conjunction]

I'm not a fool; as you, I spend my time wisely (as you [do]) [you spend your time **wisely**]

with **like** **after** an **adjectival clause** [like is an adjective]

I'm not a fool like you; I spend my money wisely (likens you to a fool) [you spend your money **unwisely**]

before an **adjectival clause** [like is an adjective]

I'm not a fool; like you, I spend my money wisely (likens me to you) [you also spend your money **wisely**]

Commas

are used either singly (in lists) or in pairs (within sentences)

for **separating**

items in lists

but not before the final **conjunction**

in **simple** lists (where the comma is used in place of **and**)

	where linked items have no conjunctions	
	The solution contained: 2 g glucose, 3 g NaCl, 4 g urea and 5 g Tris	
	where linked items are connected by ampersands	
	We bought supplies from Bausch & Lomb and Merck, Sharp & Dome	
	with linked items are linked by an [elided phrase]	
	Students do not get paid extra for packing for shipment or [packing for] distribution of theses	
	[there is no extra pay for packing (for either purpose), but may be for distribution alone]	
	where linked items listed are explanatory	
	We gave certificates to our supervisors, Dr Yeung and Dr Cooper	
	[two certificates: Dr Yeung and Dr Cooper are our supervisors]	
	and also before the final conjunction (the 'serial', 'Oxford' or 'Harvard' comma)	
	in simple lists	
	where linked items themselves are connected by conjunctions	
	We bought supplies from Bausch and Lomb, and Merck, Sharp and Dome	
	We gave certificates to our supervisors, Dr Yeung, and Dr Cooper	
	[more than two certificates: Dr Yeung and Dr Cooper are not our supervisors]	
	where linked items are not linked by an [elided phrase]	
	Students do not get paid extra for packing for shipment, or distribution of used theses	
	[there is no extra pay for either packing for the purpose of shipment or distribution alone]	
	in complex lists	
	where clauses are listed	
	He wanted Jones to collect cells, Yeung to incubate them, and Cooper to prepare the media	
coordinate	adjectives	
	A fertile, healthy marmoset	[a marmoset which is both fertile and healthy]
	A healthy, fertile marmoset	[a marmoset which is both healthy and fertile]
non-defining	(non-restrictive) appositive phrases	
	Dr Yeung's husband, Trevor , works in the same lab.	[Dr Yeung has only one husband, Trevor]
non-defining	(relative coordinate) adjectival clauses	
	That osmometer, which measure vapour pressure , was from the DFG	[the osmometer detects vapour pressure]
	My supervisors, Dr Yeung and Dr Cooper , went to the seminar	[my supervisors are Dr Yeung and Dr Cooper]
	We gave certificates to our supervisors, Dr Yeung and Dr Cooper	[only two certificates were given]
	She gave the surgical instruments to her technician, Barbara	[there is only one technician, named Barbara]
	Androgens had no effect , as the professor claimed	[the claim is that androgens have no effect]
for setting apart		
	alternative names	
	An increase in cell number, or hyperplasia , was caused by the drug	[hyperplasia is increased cell number]
	The drug caused enlargement of the organ by an increase in cell number, or hyperplasia	
	direct speech	
	Cooper said, " The regulation of volume is an important sperm function "	
	explanations	
	Prostatic cancer is the second-leading cause of cancer-related deaths in men, after lung cancer	
	interjections	
	Wait , I'll be with you soon	
	Of course , the problem will be solved immediately	
	The problem was not solved immediately, of course	
	relationships	
	Drs Yeung and Cooper went to Chinese University (CUHK) and Reading University (RU), respectively	[Dr Yeung went to CUHK, Dr Cooper to RU]
for filling gaps	(ellipsis)	
	The professor had a laptop; his assistant, a notebook	[... his assistant [had] a notebook]
	Anna wore a dark suit; Sally, light	[... Sally [wore a] light [suit]]
for joining clauses of equal importance (where there may otherwise be confusion)		
	before coordinating conjunctions	
	and	
	The monkeys had fresh fruit, and chow was given to the rats	[not ... had fresh fruit and chow]
	The winners had a cheque, and a certificate was given to the runners up	[not ... had a cheque and a certificate]
	but	
	The monkeys got fresh fruit, but no water was given to the rats	[not ... got fresh fruit but no water]
	The winners had a certificate, but no money was given to the runners up	[not ... had a certificate but no money...]
	or	
	The winners got a cheque, or a certificate was given to the losers	[not ... got a cheque or a certificate]
	yet	
	The winners had an honorarium, yet no money was given to the losers	[not ... given an honorarium yet no money]
	not without a coordinating conjunction (the comma splice)	

See: [Full stop/colon/semicolon](#), [Position of commas](#), [Presence of commas](#)

ALERT Check whether a **comma** is needed at all

The evidence suggests that the two sperm ZP receptors are complexes, each requires coordinated action of several proteins

ERROR *Syntax*: the two clauses are **incorrectly joined by a comma (a comma splice)**

CORRECT by

replacing the **comma** by a **colon** or **semicolon**

The evidence suggests that the two sperm ZP receptors are complexes; **each requires** coordinated action of several proteins

inserting **and**

The evidence suggests that the two sperm ZP receptors are complexes, **and** each requires coordinated action of several proteins

using an **adjectival phrase**, after the comma

The evidence suggests that the two sperm ZP receptors are complexes, **each requiring coordinated action of several proteins**

ALERT Check that **sufficient commas** are used to prevent ambiguity

We bought supplies from Bausch and Lomb **and** Merck, Sharp and Dome

ERROR *Semantics*: ambiguous, **it is unclear** if Bausch/Lamb/Merck form one company and Sharp/Dome another

CORRECT [if **Bausch/Lamb** is one company and Merck/Sharp/Dome another] by

replacing **and** in the listed items by **ampersands**

We bought supplies from Bausch & Lomb **and** Merck, Sharp & Dome

inserting a **comma before** the sentence conjunction **and**

We bought supplies from Bausch and Lomb, **and** Merck, Sharp and Dome

We gave certificates to our supervisors, Dr Yeung **and** Dr Cooper

ERROR *Semantics:* ambiguous, as the comma could be separating items in a simple list or setting apart an adjectival phrase or so **this could be interpreted as**

Dr Yeung and Dr Cooper are our supervisors (the comma **sets apart** an adjectival phrase) [two certificates given]
or

Dr Yeung and Dr Cooper are not our supervisors (the comma **separates items** in a simple list) [more than two certificates given]

CORRECT [if the **former** is meant] by **rewriting the sentence** by changing the **word order**

We gave certificates to Dr Yeung and Dr Cooper, our supervisors

CORRECT [if the **latter** is meant] by **rewriting the sentence** by changing the **word order** and **placing and before** supervisors

We gave certificates to Dr Yeung, Dr Cooper and our supervisors

Alterations to this complex may cause cell-adhesion defects and defects in cellular behaviour **and function** in the progression of malignancies

ERROR *Semantics:* ambiguous, as the **auxiliary verbs** apply to the 1st noun (**defects**) with **no comma**, they also refer to the 2nd noun (**function**) so **this could be interpreted as**

there being **one clause** [lack of comma **deliberate**] (**function** is a **noun**) [**outcome:** tumour progression]

or

there being **two equivalent clauses** [lack of comma **an error**] (**function** is a **verb**) [**outcomes:** cell defects and tumour progression]

CORRECT [if the **former** is meant] by

rewriting the sentence by making a **non-defining clause**

Alterations to this complex may cause **defects** in cell-adhesion, cellular behaviour and function, **which lead to the progression of malignancies**

CORRECT [if the **latter** is meant] by

inserting a **comma before** the sentence conjunction **and**, and **rewriting a balanced sentence** by replacing **function** by **may promote**

Alterations to this complex **may cause** cell-adhesion defects and defects in cellular behaviour, **and may promote** the progression of malignancies

Presence of commas

the **presence or absence of commas** may alter the meaning of **parts of speech**

without a comma

Caution students.

[caution is an **imperative verb**] (**the students** have to be warned of some unstated peril)

with a comma

Caution, students!

[caution is an **exclamation**] (**we** have to be warned of a peril from students)

without a comma

However he added the solution, a precipitate was formed

[**however**, used as an **adverb** means **in whatever way/no matter how**]

with a comma

However, he added the solution, despite being warned not to

[**however**, used as a **conjunction** means **but, nevertheless**]

without a comma

Eats shoots and leaves

[a statement: eats is a **verb**; shoots and leaves are **nouns**]

with a comma

Eats, shoots and leaves

[a simple list: eats, shoots and leaves are **verbs**]

of **phrases**

without a comma

The doctor gave the surgical instruments to her **technician** Barbara

[the doctor has **more than one** technician: Barbara is one]

with a comma

The doctor gave the surgical instruments to her **technician,** Barbara

[the doctor has **only one** technician, named Barbara]

without a comma

He ignored legal **advice** to continue to the investigation

[the ignored **advice** was **to continue** the investigation]

(the investigation was **halted**)

with a comma

He ignored legal **advice,** to continue the investigation

[the advice was ignored **in order** to continue the investigation]

(the investigation **continued**)

without a comma

Students were banned from organising **events** to build team spirit

[the **events** being banned were those for building team spirit]

(team spirit is considered **bad**)

with a comma

Students were banned from organising **events,** to build team spirit

[the events were banned **in order to** build team spirit]

(team spirit is considered **good**)

without a comma

Prostatic cancer is the second-leading cause of cancer-related deaths in men **after** lung cancer

[implies a **first-leading** cause after lung cancer]

(prostatic cancer is **third** in rank)

with a comma

Prostatic cancer is the second-leading cause of cancer-related deaths in men, **after** lung cancer

[implies no other leading cause than lung cancer]

(prostatic cancer is **second** in rank)

of **clauses**

without a comma

Technicians dislike **animals** which bite

[clause with **no** comma: bite **defines** the animals]

(only **biting** animals are disliked)

with a comma

Technicians dislike **animals,** which bite

[clause with a comma is **adjectival**: all animals bite]

(**all** animals are disliked)

without a comma

Students dislike **professors** who show favouritism

[clause with **no** comma: favouritism **defines** the professors]

(those with **favouritism** are disliked)

with a comma

Students dislike **professors,** who show favouritism

[clause with a comma is **adjectival**: all professors show favouritism]

(**all** professors are disliked)

without commas

Scientists **who are honest** report what they observe

[clause with **no** comma: being honest **defines** the scientists]

(only **honest** scientists report)

with a pair of commas

Scientists, **who are honest,** report what they observe

[clause with commas is **adjectival**: all scientists are honest]

(**all** scientists report observations)

without a comma	This reflects badly on a colleague of the student who is at the centre of the plagiarism scandal [clause with no comma: who refers to the colleague] (the colleague is the scandal centre)
with a comma	This reflects badly on a colleague of the student , who is at the centre of the plagiarism scandal [clause with a comma is adjectival : who refers to the student] (the student is the scandal centre)
without commas	The reviewer said the author was a plagiarist [clause with no commas: the reviewer is speaking] (the author is the plagiarist)
with a pair of commas	The reviewer, said the author , is a plagiarist [clause with comma is adjectival : the author is speaking] (the reviewer is the plagiarist)
without a comma	Androgens had no effect as the professor claimed [clause with no comma: androgens have an effect] (the claim was not confirmed)
with a comma	Androgens had no effect , as the professor claimed [clause with a comma is adjectival : androgens have no effect] (the claim was confirmed)
of sentences	
without a comma	A week before members of the group had been asked to sign a code of conduct form... [before is part of a subordinate clause] (the sentence is incomplete with no main clause)
with a comma	A week before , members of the group had been asked to sign a code of conduct form [before ends an adverbial phrase] (the sentence is complete with a main clause alone)
without a comma	I am not resigning because of the new director [a complete sentence of one main clause] (I am resigning: for a reason unconnected to the new director)
with a comma	I am not resigning , because of the new director [the comma precedes a subordinate adverbial phrase of reason] (I am not resigning: for a reason connected to the new director)
without a comma	A fertile healthy marmoset [no comma separates cumulative adjectives] (of the healthy marmosets, one which is fertile)
with a comma	A fertile, healthy marmoset [a comma separates coordinate adjectives] (a marmoset which is both fertile and healthy)
without a comma	A healthy fertile marmoset [no comma separates cumulative adjectives] (of the fertile marmosets, one which is healthy)
with a comma	A healthy, fertile marmoset [a comma separates coordinate adjectives] (a marmoset which is both healthy and fertile)
without a comma	I have no forceps or scissors [or joins two nouns : the no applies to both of them] (I have no forceps (and I have no) scissors): I have no scissors
with a comma	I have no forceps , and scissors [or joins two clauses of equal importance: only forceps are lacking] (I have no forceps (but I have) scissors): I do have scissors
without a comma	Jennifer introduced me to Stanley her supervisor and her friend (it is impossible to say how many people I was introduced to) [the lack of punctuation hides any relationship between the three objects]
with a comma	Jennifer introduced me to Stanley, her supervisor and her friend (I was introduced to one person: Stanley who is both supervisor and friend) [the comma separates two appositive nouns describing Stanley]
with a pair of commas	Jennifer introduced me to Stanley, her supervisor, and her friend (I was introduced to two people: Stanley the supervisor + friend) [the commas separate one appositive noun describing Stanley]
without a comma	The monkeys were given fresh fruit and chow was given to the rats [and appears to join two nouns : the monkeys were given both fruit and chow ; but and really joins two clauses : the monkeys only received fruit]
with a comma	The monkeys were given fresh fruit , and chow was given to the rats [and joins two clauses of equal importance]
	Style: it would be better to make the sentence symmetrical with but : The monkeys were given fresh fruit but the rats were given chow
without a comma	The monkeys were given fresh fruit but no water was given to the rats [but appears to join two nouns : the monkeys were not given water ; yet but really joins two clauses : the rats were not given water]
with a comma	The monkeys were given fresh fruit , but no water was given to the rats [but joins two clauses of equal importance]
	Style: it would be better to make the sentence symmetrical with but : The monkeys were given fresh fruit but the rats were given no water
without a comma	The winners were given a cheque or a certificate was awarded to the runners up [or appears to join two nouns : the winners received a cheque or certificate ; but or really joins two clauses : the winners only received a cheque]
with a comma	The winners were given a cheque , or a certificate was awarded to the runners up [or joins two clauses of equal importance]
	Style: it would be better to make the sentence symmetrical with but : The winners were given a cheque but the runners up were given a certificate
without a comma	The winners were given an honarium yet no money was awarded to the runners up [yet appears to join two nouns : the winners received no money ; but yet really joins two clauses : the runners up received no money]

See: [Commas](#), [Position of commas](#), [Presence of commas](#)

Presence of serial commas

the **presence or absence of serial commas** may **alter the meaning** of sentences

without a comma	Students do not get paid extra for packing for shipment or distribution of posters [or joins two nouns : there is no extra pay for packing of posters alone] (there may be extra pay for packing of posters if not for shipment or distribution)
with a serial comma	Students do not get paid extra for packing for shipment, or distribution of posters [or joins two phrases of equal importance: there is no extra pay for either packing or distribution] (there is no extra pay at all)
without a comma	The role of the additive was ridding the culture of fungal spores and multiplying bacteria [and joins two nouns : the gerund ridding applies to both ; multiplying used as an adjective] (the additive ridded the culture of fungal spores and [ridded the culture of] bacteria)
with a serial comma	The role of the additive was ridding the culture of fungal spores, and multiplying bacteria [and joins two phrases of equal importance: ridding the culture and multiplying bacteria] (the additive removed fungal spores and added bacteria; multiplying used as gerund)
without a comma	I have a red pen and pencil [and joins two nouns : the adjective red applies to both of them] (I have a red pen and [I have a red] pencil; both items are red)
with a serial comma	I have a red pen, and a pencil [red only applies to the first noun] (I have a red pen, and [I have] a pencil; only the pen is red)
without a comma	The Dean is becoming less friendly and authoritarian [and joins two adjectives : the less applies to both of them] (he is becoming less authoritarian)
with a serial comma	The Dean is becoming less friendly, and authoritarian [and joins two clauses of equal importance: only friendliness is less] (he is becoming authoritarian)
without a comma	Knockdown of the gene led to decreased nucleotide release and monocyte recruitment [and joins two nouns : the decreased applies to both of them] (monocyte numbers decreased)
with a serial comma	Knockdown of the gene led to decreased nucleotide release, and monocyte recruitment [and joins two clauses of equal importance: only nucleotide release was decreased] (monocyte numbers increased)
without a comma	Jennifer introduced me to Stanley her supervisor and her friend [the lack of punctuation hides any relationship between the three objects] (it is impossible to say how many people I was introduced to)
with a serial comma	Jennifer introduced me to Stanley her supervisor, and her friend [supervisor is an defining appositive noun describing Stanley] (I was introduced to two people: Stanley and the friend)
with a non-serial comma	Certificates were given to our supervisor, Dr Yeung and Dr Cooper [a simple list: neither Dr Yeung nor Dr Cooper is our supervisor] (three certificates were presented)
with two commas	Certificates were given to our supervisor, Dr Yeung , and Dr Cooper [the commas enclose a non-defining appositive noun : Dr Yeung is our supervisor] (only two certificates were presented)
with a non-serial comma	Jennifer introduced me to Stanley, her supervisor and her friend [the comma separates two appositive nouns (supervisor, friend) describing Stanley] (I was introduced to one person: Stanley the supervisor and friend)
with two commas	Jennifer introduced me to Stanley, her supervisor, and her friend [commas now enclose one appositive noun (supervisor) describing Stanley] (I was introduced to two people: Stanley the supervisor/friend)

See: [Presence of ellipsis](#)

Apostrophes

indicate **omission** of letters

in contractions	bo's'n (bos'n, bosun)	boatswain	[of a ship's crew]
	fo'c'sle	forecastle	[of a ship]
	he's	he is	he has
	how's	how does	how is
	I'd	I would	
	I'll	I shall	I will
	I'm	I am	
	isn't	is not	
	I've	I have	
	let's	let us	
	o'clock	of the clock	
	one's	one is	one has
	shan't (sha'n't)	shall not	
	they're	they are	
	you're	you are	
of figures in dates	'68	1968	
	the '90s	the 1990s	
indicate possession	's	of singular nouns	one week's time

indicate plurals	s'	of plural nouns	two weeks' time
	's	of English words	No if's, and's and but's
not of		of lower case abbreviations	There were three led's
		of lower case letters	he dotted his i's and crossed his t's
		borrowed words	pros and cons
		upper case abbreviations	He compared two CASAs
		upper case letters	How many Bs are there in BBC?
		numbers	in the 1980s and '90s

See: [Abbreviations](#), [Elision/omission](#), [Genitive \(possessive\) case](#), [Plurals of nouns](#), [Punctuation](#), [Syncope](#)

Inverted commas

used in pairs (' ' , " ")

surrounding **direct quotations** only, for **actual** spoken or written words

the **use of which format** is dictated by the journal style

double (UK)

"Do you agree with the questioner's interpretation?"

single (U.S.)

'I cannot agree with the questioner's interpretation!'

inverted commas **within** quotations use the alternative form

single within double

"I cannot agree with the questioner's use of 'plagiarism' at all!"

double within single

'Does she agree with the questioner's use of "plagiarism" or not?'

surrounding **non-spoken** words or phrases

the **use of which format** is dictated by the journal style

single (UK)

a non-literal sense

The lysosome is the cell's 'dustbin.'

a non-conventional sense

The female tract selects the 'fittest' group of spermatozoa

(which has to be defined)

[those that swim fastest and bind best to the zona pellucida]

See: [Direct/indirect speech](#), [Future tense of direct/indirect speech](#), [Position of punctuation with inverted commas](#), [Punctuation](#), [Quotation/quote/quotes](#), [Sentences](#), [So-called](#)

ALERT Check that **inverted commas** only follow **direct** quotations

Cooper said that "the regulation of volume is an important sperm function."

ERROR *Syntax*: this is an **indirect** quotation (the statement's content being given, introduced by **that**), requiring **no** quotation marks

CORRECT by

omitting the **inverted commas**

Cooper said that the regulation of volume is an important sperm function

making a **direct quotation** by **replacing that** by a **comma** and **using** an **initial capital letter**

Cooper said, "The regulation of volume is an important sperm function."

ALERT Check that the special use of words enclosed in **inverted commas** is defined

Density gradient centrifugation separates spermatozoa of 'good quality' from others

ERROR *Semantics*: what is meant by 'good quality' is not explained

CORRECT [if **no** previous explanation is given]

by **replacing** the **quotation** by an **explanation**

Density gradient centrifugation separates spermatozoa of 'good quality' (those with **high motility** and **normal morphology**) from the others

Position of punctuation with inverted commas

depends on whether the punctuation is related to

what is **quoted**

the **punctuation** lies **inside** the inverted commas whether

the **quotation** and **sentence** punctuation are the **same**

when the quotation **is the entire** sentence

for a quoted statement a full stop

"This is clearly important."

for a quoted exclamation an exclamation mark

"That's the fire alarm!"

for a quoted question a question mark

"Did he really say that?"

when the quotation is **introduced** with a **comma before** it

for a quoted statement a full stop

He said, "I want to retire at the end of the year."

for a quoted exclamation an exclamation mark

She shouted, "I'm never coming back!"

for a quoted question a question mark

They asked, "Do you want us to stay on?"

the **quotation** and **sentence** punctuation are **different**

when the quotation is **introduced** with a **full stop after** it

for a quoted statement a comma

"I want to retire at the end of the year," he said.

for a quoted exclamation an exclamation mark

"I'm never coming back!" she shouted.

for a quoted question a question mark

"Do you want us to stay on?" they asked.

the **entire sentence**

the **punctuation** lies **outside** the inverted commas

when the **quotation** has **no punctuation** whether

spoken (within **double** inverted commas) with a **comma before** it

for a sentence statement a full stop

I really think she said, "You don't believe me".

for a sentence exclamation an exclamation mark

I really can't believe she said, "I don't want it"!

for a sentence question a question mark

Is it true that he said, "I don't want the position"?

non-spoken (within **single** inverted commas) with **no comma before** it

for a sentence statement a full stop

She thought that he was 'developing signs of madness'.

He thought she was 'showing erratic behaviour', and left.

for a sentence exclamation	an exclamation mark	He said that he ‘wanted to be left alone’!
for a sentence question	a question mark	Why didn’t she realise that ‘he was going mad’?

Brackets

round brackets (), parentheses,	
enclose alternative names	The gene is upregulated by decreased oxygen (hypoxia)
parenthetical descriptions	The level of sperm proteins studied (HSPA5, AKR7A2 and CTSB) was related to sperm motility
may be replaced by	
Em dashes	The level of sperm proteins studied—HSPA5, AKR7A2 and CTSB—was related to sperm motility
En dashes and a space	The level of sperm proteins – HSPA5, AKR7A2 and CTSB – was related to sperm motility
commas	The level of sperm proteins studied, HSPA5, AKR7A2 and CTSB, was related to sperm motility
can be omitted	
with no loss of meaning	The level of sperm proteins studied was related to the extent of sperm motility
indicate items within square brackets	[Her name is (Dr) Yeung I believe.]
square brackets [], brackets	
enclose concentrations	The [Na ⁺]/[K ⁺] ratios differ between blood and epididymal fluid
clarifying editorial material	His previous work [Jones 1986] suggested that this was so
indicate ellipsis	She writes English as well as I [do]
an error	Spermatozoa are stored in the cauda epididymus [sic]
items within round brackets	(His name is [Dr] Cooper, I believe.)
curly brackets {}, braces	
in mathematics	for enclosing mathematical terms: { <i>a</i> , <i>b</i> } is defined as <i>a</i> <i>b</i> + <i>b</i> <i>a</i>
angle brackets ⟨⟩, chevrons	
in phonetics	for enclosing graphemes: ⟨ <i>eau</i> ⟩
in mathematics	for enclosing mathematical terms
double angle brackets ⟨⟨⟩⟩, guillemets	
in non-English languages	for enclosing written speech

See: [Dash/hyphen](#), [Ellipsis](#), [In parentheses/parenthesis](#), [Lexemes/words/syllables/morphemes/phonemes/graphemes/letters](#), [Parentheses/parenthesis](#), [Position of full stops](#), [Punctuation](#), [Sic](#)

ALERT Check that it is clear what **bracketed** words refer to

Non-finite verbs are forms that **are not** finite (infinitives, participles, gerunds)

ERROR *Semantics*: ambiguous, **it is unclear** what the bracketed words refer to, the non-finite or finite verb forms so **this could be interpreted as** the bracketed words being examples of

the immediate antecedent (finite verbs)	[from which non-finite verbs have to be distinguished]
or	
the introductory non-finite verbs	[from which finite verbs have to be distinguished]

CORRECT [if the **former** is meant] by

inserting i.e. inside the brackets and **changing their content**

Non-finite verbs are forms that are not **finite (i.e. with specific tense, number, and person)**

CORRECT [if the **latter** is meant] by

inserting i.e. inside the brackets and **moving the brackets** immediately after **non-finite verbs**

Non-finite verbs (i.e. infinitives, participles, gerunds) are forms that **are not** finite

Position of punctuation with brackets

depends on whether the punctuation is related to

what is **in parentheses**

when the **parentheses are the entire** sentence

the **parenthetical** and **sentence** punctuation are the **same**

the **punctuation** lies **inside** the parentheses

for a parenthetical statement	a full stop	(It is unlikely that he said that.)
for a parenthetical exclamation	an exclamation mark	(I don’t believe it can be true!)
for a parenthetical question	a question mark	(I’ve heard that, but is it true?)

the **entire sentence**

when the **parentheses** are **only a part of** the sentence

the **parenthetical** contents have **no punctuation**

the **punctuation** lies **outside** the parentheses

for a parenthetical statement	a full stop	I’ve heard it (but it is unlikely that he said that).
for a parenthetical exclamation	an exclamation mark	I don’t believe it (even if it is true)!
for a parenthetical question	a question mark	Is it true (I’ve heard the rumour)?

See: [In parenthesis/parenthesis](#), [Parentheses/parenthesis](#)

Spaces

blanks between printed, typed or written words, characters, numbers, sentences, paragraphs etc.

letter spaces	on a line	for separating	words	(usually one)
			sentences	(sometimes two)
line spaces	between lines	for separating	paragraphs	(usually one-and-a-half or two)

denominator and mathematical spaces

present	between	a value and	most units	10 rpm	5 µm	10 ml	20 min
			a specific currency	US\$ 500	HK\$ 5000		
		per and cent and value (when written as words)		Thirty-two per cent			
		a plus sign and a number (remainder)		9/4 = 2 (+ 1)			
	either side of	mathematical operators					

		a plus sign	addition	90 + 4
		a minus sign	subtraction	94 – 90
		paired En dashes		used – as here – to separate words [syl·la·ble]
<i>not</i> present	between	hyphenation points (bold)		
		a value and a few units		16,000g 50% 37°C 180° 30' 50''
		general currencies		\$500 €400 £200 ¥100
		a plus sign and a positive number		+45 (plus forty-five)
		a minus sign and a negative number		–70 (minus seventy)
		paired EM dashes		used—as here—to separate words [syl·la·ble]
		interpuncts (not bold)		

See: [Mathematical comparators/operators](#), [Presence of spaces](#), [Units](#)

Presence of spaces

the **presence or absence** of *spaces* may alter the meaning of words and numbers

<i>without</i> a space	Anointment	[the application of ointment]	
<i>with</i> a space	An ointment	[an oily medication]	
<i>without</i> a space	I'll have a haircut	[haircut is a noun]	(all the hairs on my head will be cut)
<i>with</i> a space	I'll have a hair cut	[hair is a noun , cut is a verb]	(only one hair will be cut)
<i>without</i> a space	40–60	[an En dash]	(a range from 40 to 60)
<i>with</i> a space	40 – 60	[a minus sign]	(a subtraction 40 minus 60 = –20)

PHRASES

Phrases

a word or words **acting** as a **part of speech** (noun, verb, adjective, adverb, preposition)

standing together as a conceptual unit but **lacking a finite verb**

typically forming a **component** of a **clause** (which has a finite verb)

types of phrase

content phrases contain the part of speech whose action they perform

content words	adjectives	in adjective phrases	The administration sent a document based on your suggestion
	adverbs	in adverb phrases	I need to leave before the break
	conjunctions	in conjunction phrases	His talks are very good, even though he says so himself
	infinitives	in infinitive phrases	To work on Sundays is a nuisance
	gerunds	in gerundial phrases	Cells were separated by using a centrifuge
	nouns	in noun phrases	The undergraduate student gave a long boring seminar
	participles	in participial phrases	Provided with working equipment , he can do it
	prepositions	in prepositional phrases	The values are low compared with the controls
	verbs	in verb phrases	By Sunday he will have been studying for three year

function phrases *need not* contain the part of speech whose action they perform

function words	participles	in adjectival phrases	The surgeons, having finished the operation , went to dinner
		in conjunctive phrases	He can do it, provided that the equipment is working
	prepositions	in adjectival phrases	Assess the area inside the grid for abnormal spermatozoa
		in adverbial phrases	The microscope malfunctioned despite the tune-up
		in noun phrases	The laboratory is next to the clinic

phrases may overlap within phrases

the sentence		The extremely badly kept large grey mice have been biting extremely ferociously for weeks
has a noun phrase		The remarkably badly kept large grey mice have been biting extremely ferociously for weeks
with an adjective phrase		The remarkably badly kept large grey mice have been biting extremely ferociously for weeks
with an adverb phrase		The remarkably badly kept large grey mice have been biting extremely ferociously for weeks
a verb phrase		The remarkably badly kept large grey mice have been biting extremely ferociously for weeks
with an adverb phrase		The remarkably badly kept large grey mice have been biting extremely ferociously for weeks
and a prepositional phrase		The extremely badly kept large grey mice have been biting extremely ferociously for weeks

See: [Clauses](#), [Parts of speech](#), [Position of phrases](#), [Structure of sentences](#)

Absolute/non-absolute verbal constructions

absolute phrases attached to a clause **without a conjunction**

control the **entire** sentence

phrasal clauses

with a **comma** after the **phrase not** the **subject**

The **scientists having collected the optimal number of spermatozoa**, the wound was closed

The **surgeons having finished the operation**, the lights were dimmed

The **desired number of cells having been reached**, the counting was stopped

cannot be omitted without a change to the meaning of the sentence

The wound was closed... [but why?]

The lights were dimmed... [but why?]

The counting was stopped... [but why?]

non-absolute phrases attached to a clause **without a conjunction**

control only the **subject** of the sentence

adjectival phrases

with a **comma** after the **subject** and the **phrase**

The **scientists, having collected the optimal number of spermatozoa**, closed the wound

The **surgeons, having finished the operation**, went to dinner

can be omitted without a change to the meaning of the sentence

The scientists closed the wound

The surgeons went to dinner

See: Adjectival phrases/phrasal clauses, [Clauses](#), Phrasal clause, [Phrases](#)

Adjective/adjectival phrases

adjective phrases **content** phrases acting as **adjectives**
contain an **adjective**

The administration sent a document **based on your suggestion**
His infertility was **caused by azoospermia**

adjectival phrases **function** phrases acting as **adjectives**
need not contain a **adjective**

include **adverbials** and their modifiers

prepositional phrases

participial phrases

The microscope **in the culture room** needs to be repaired

The surgeons, **having finished the operation**, went to dinner

The scientists, **having collected the optimal number of spermatozoa**, closed the wound

See: [Absolute/non-absolute verbal constructions](#), [Adjectives](#), [Participial phrases](#), [Phrases](#), [Prepositional phrases](#)

ALERT Check that the **adjectival phrase** is close to what it defines

With no role in the electoral process, the now-deferred Student Union **election** has been a non-event to most students

ERROR *Semantics*: the closest **noun** to the adjectival phrase is **election**
but **elections** are **insentient and cannot** have a role in anything

CORRECT [if most students have **no** role in the election] by

rewriting the sentence

With no role in the electoral process, most **students** consider the now-deferred Student Union election a non-event

Adverb/adverbial phrases

adverb phrases **content** phrases acting as **adverbs**
contain an **adverb** with **verb**
with **noun**

She **expertly dissected** the epididymis for the students

I need to leave **before the break**

adverbial phrases **function** phrases acting as **adverbs**
need not contain an **adverb**

include **adverbials** and their modifiers

prepositional phrases

relate to description
manner

I offered the scalpel to the student **in the green surgical gown**

They were working **in a difficult situation**

These machines function **in the same way**

place

She was working **in the culture room**

This work is done **in the new laboratory**

reason

He went away **for a sabbatical year**

time

I spoke to him **after the seminar**

I always wear a lab. coat **except in summer**

some **adverbial phrases** are followed by **inversion** of the **verb** and **subject**

hardly ever in no way

never again

never before

no sooner

not only

not since

not until

on no account only by

only rarely

only then

only when

so infected

under no circumstances

See: [Adverbs/adverbials](#), [Adverbs](#), [Phrases](#), [Prepositional phrases](#)

Appositive nouns/phrases

appositive nouns

nouns qualifying a **head noun**

by providing further information about it

usually come **mid-sentence**

head noun

Barbara

appositive **noun**

Barbara, a technician, organises the QC courses

technician

appositive **noun**

A technician, Barbara, organises the QC courses

may **begin** a sentence

A technician, Barbara organises the QC course

end a sentence

Organising the QC courses is **Barbara, a technician**

appositive phrases

noun phrases qualifying a **head noun**

by providing further information about it

usually come **mid-sentence**

head noun

Barbara

appositive **phrase**

Barbara, the former head technician, organises the QC courses

retiree

appositive **phrase**

A retiree, former head technician Barbara, organises the QC courses

may **begin** a sentence

The former head technician, Barbara organises the QC course

end a sentence

Organising the QC courses is **Barbara, the former head technician**

See: [Defining/non-defining appositives](#)

Defining/non-defining appositives

defining (non-descriptive) appositives

not separated by punctuation from the **head noun**

appositive **proper noun** **The doctor's technician Barbara** runs the QC programme

[the Dr has **many** technicians, one is Barbara]

My student Jennifer is not interested in the epididymis

[I have **many** students, one is Jennifer]

cannot be omitted without a change to the meaning of the sentence (**which** of the several subjects is referred to)

The doctor's technician runs the QC programme

[Which technician?]

My student is not interested in the epididymis

[which student?]

non-defining (descriptive) appositives

separated by punctuation (commas, Em dashes, brackets) from the head **noun**

appositive **proper noun** **Dr Cooper's wife, Ching-Hei**, works in the IRM

[Dr Cooper has **only one** wife, called Ching-Hei]

The doctor's technician—Nicole—runs the PCR tests

[the doctor has **only one** technician, called Nicole]

My student (Jennifer) is not interested in the epididymis

[I have **only one** student, called Jennifer]

may be omitted without a change in the meaning of the sentence (there is **only one** subject)

Dr Cooper's wife works in the IRM

The doctor's technician runs the PCR tests

My student is not interested in the epididymis

See: [Adjectival clauses/appositive phrases](#), [Noun phrases](#)

Conjunction/conjunctive phrases

conjunction phrases **content** phrases acting as **conjunctions**
contain a **conjunction**

His talks are very good, **even though** he says so himself

They worked quickly, **and so** they could leave early

They worked quickly **so that** they could leave early

As far as I know this work has not been done before

It feels **as if** it is turning septic

The fact that the object of the Guidelines is to prevent accidents is undeniable

conjunctive phrases **function** phrases acting as **conjunctions**

need not contain a conjunction

include **adverbials** and their modifiers

participial phrases

He can do it, **provided that** the equipment is working

See: [Conjunctions](#), [Participial phrases](#), [Phrases](#), [Provided by/that/with](#)

Gerundial phrases

content phrases acting as **gerunds**

contain a **gerund** as subject

Reviewing manuscripts is all I do these days

Having to work on Sundays is unfortunate but necessary

Gaining a first class degree is not the most important thing

as object You may not like **learning the passive voice**, but it will help your manuscript

Cells were separated **by using a centrifuge**

The competitor prevents Wnts **from binding to their receptors**

See: [Gerunds](#), [Phrases](#)

Infinitive phrases

content phrases acting as **infinitives**

contain an **infinitive** as subject

To work on Sundays is a nuisance

To speak at a conference, you must speak clearly and slowly

as object I flew to Nashville **to meet my former supervisor**

We were hoping **to be there on time**

See: [Content/function words/phrases](#), [Infinitives](#), [Phrases](#)

Noun phrases

content phrases acting as **nouns**

contain a **noun**

The old bald scientist is attending his last meeting

The undergraduate student gave a long boring seminar

It is undeniable **that the object of the Guidelines** is to prevent accidents

Even the most complicated grammatical rules may sink in slowly

appositive phrases qualifying a head noun

See: [Appositive nouns/phrases](#), [Content/function words/phrases](#), [Nouns](#), [Phrases](#), [Structure of sentences](#), [Substantial/substantive](#)

Participial phrases

content phrases containing a **participle**

acting as **participles**

Confused by the grammar, Silvia asked for my help

She turned up on time, **charming as always**

The **backwards-swimming spermatozoa** were those incubated in quinine

Provided with working equipment, he can do it

absolute phrases **The optimal number of spermatozoa being collected**, the perfusion was stopped

adjectival phrases The surgeons, **having finished the operation**, went to dinner

conjunctive phrases He can do it, **provided that** the equipment is working

See: [Content/function words/phrases](#)

Prepositional phrases

content phrases containing a **preposition** and its object

usually short phrases

as judged by

by means of

by the use of

compared **with**

in accord **with**

in comparison **with**

in silico

in situ

in vitro

in vivo

on account **of**

on the basis **of**

owing **to**

with reference to

with regard to

with respect to

with the aid of

with the use of

acting as **prepositional** phrases

The values are low **compared with the controls**

	The spermatozoa were capacitated as judged by their marked protein phosphorylation
	He was infertile owing to azoospermia
	The administration sent a document on the basis of your suggestion
adjectival phrases	Look at the spermatozoon with the coiled tail
	Please hand me the scalpel next to the scissors
	The dean put out a memo regarding the new rules
	Assess the area inside the grid for abnormal spermatozoa
adverbial phrases	Put the Petri dishes on a high shelf
	The spermatozoa swam through the artificial mucus
	The invoice needs to be put into the departmental inventory
	The microscope malfunctioned despite the tune-up
subject complements	The laboratory is next to the clinic
	The student's grade is between an A and a B
	The talk is before the poster session

See: [Adverb/adverbial phrases](#), [Based on/on the basis of](#), [Content/function words/phrases](#)

Verb/verbal phrases

verb phrases act as **finite** verbs

content phrases acting as **verbs**

contain a **lexical verb** alone

He **dissected** the testis yesterday

She **is fixing** the cells now

The disease **has appeared** recently

By Sunday he **will have been studying** for three years

with auxiliary verb

The new student **can learn** new things

She **might dissect** the epididymis tomorrow

You **should wait** before applying

I **must go** before the break

verbal phrases act as **non-finite** verbs

function phrases containing **verbals** and their modifiers

verbal noun phrases

gerund phrases

infinitive phrases

verbal adjective phrases

participial phrases

See: [Content/function words/phrases](#), [Finite/non-finite verbs](#), [Gerundial phrases](#), [Infinitive phrases](#), [Participial phrases](#)

Position of phrases

the **position** of **phrases** may **alter the meaning** of a sentence

[implication]

adjectival phrases modify the **closest noun** or **pronoun**

Using the same protocol **we** made investigations in a new cohort

[**we** were using the protocol]

We made investigations in a new **cohort** using the same protocol

[the **cohort** was using the protocol]

Using binoculars **we** observed monkeys

[**we** were looking at monkeys]

We observed **monkeys** using binoculars

[the **monkeys** were looking at us]

adverbial phrases modify the **closest verb** or **noun**

He **reported in the meeting room** that there was widespread bacterial contamination

[the **report** was made in the room]

He reported that there was widespread **bacterial contamination in the meeting room**

[the **contamination** was in the room]

prepositional phrases modify the **closest word**

She, along with her assistant, transported genetically modified animals in her suitcase

[the assistant **also transported** material]

She transported genetically modified **animals** in her suitcase, **along with her assistant**

[the assistant was **also in her suitcase**]

purpose phrases should follow the **principal clause**

The proteins were classified by a step-wise procedure to characterise their function

[the **scientists** did the classifying]

To characterise their function, **the proteins were classified by a step-wise procedure**

[the **proteins** did the classifying]

See: [Using](#)

CLAUSES

Clauses

absolute verbal constructions

groups of words that contain a **subject** and a **non-finite** form of verb

phrasal clauses used as **subordinate** clauses

control the **entire** sentence

The surgeons having finished the operation, the lights were dimmed

non-absolute verbal constructions

groups of words that contain a **subject** and **finite** form of a verb

coordinate (main, independent) **clauses** (verb clauses)

are of greater **rank** than (subordinate, dependent) clauses

used **alone** are **simple sentences** statements She **studies** the epididymis.

questions **Does** she examine sperm motility?

when **joined** by **coordinating** conjunctions (and, but, or, yet) form

compound sentences

with **two** or more [co-ordinate clauses] [He was preparing the medium] **and** [she was preparing the cells]

[The cleaners sweep the floors] **but** [the scientists sterilise the bench tops]

[He was preparing the medium] **or** [was preparing the cells]

[Their comments were unwelcome] **yet** [their advice improved the paper]

compound questions

with **two** or more [co-ordinate clauses] [**Did he** withdraw the manuscript] **or** [**was it** rejected?]

subordinate (dependent) clauses

are of lower **rank** to coordinate (independent) clauses

are not by themselves **simple sentences** (If I attend the meeting...)
(When you are culturing epithelial cells...)

when **beginning** sentences

subsequent **pronouns** in the main clause, refer to the **subject** of the subordinate clause

If the **fibres** were breathed in by the rats, **they** would be trapped in the lungs
[**they**, the **fibres** would be trapped]

If the **rats** breathed in the fibres, **they** would be trapped in the lungs
[**they**, the **rats** would be trapped]

when **joined** by **subordinating (non-coordinating)** conjunctions (although, because, if, whereas) form

complex sentences

with **one** [co-ordinate, independent] and **at least one** (subordinate, dependent) clause

(If I attend the meeting), [she will accompany me]

complex questions

with **one** [co-ordinate, independent] and **at least one** (subordinate, dependent) clause

(When **you are** culturing epithelial cells), [**do you** change medium every day?]

relative clauses

involve relative **pronouns**

act as **adjectives** qualifying a noun

I know the scientist **who applied to be Dean**

We know the scientist **whom the committee rejected as Dean**

substantival (noun) clauses act as

subjects of a **verb**

introduced by **that, the fact that**

That his work is good **is** without doubt

The fact that no argument supports the hypothesis **does not mean** it is wrong

are not introduced by subordinate, dependent conjunctions (although, because, if, whereas)

indirect statements as complements of a **verb**

introduced only by **that**

The reason he fixed it **is that he was better trained**

indirect questions as objects of a **verb**

introduced by **how, when, whether, why**

What we need to know **is how/when he got in**

The question **is whether/why he made the discovery**

may function as

adjectives (adjectival clauses)

adverbs (adverbial clauses)

nouns (substantive clauses)

indirect questions (question clauses)

His paper, **which was accepted by Nature**, was his third publication

His paper was accepted by Nature **while he was away**

That his paper was accepted by Nature indicates its quality

I wish to know **in which journal his paper was published**

are **separated** by a **comma** if they are

coordinate clauses of equal importance joined by **and/but/or/yet** where there may otherwise be confusion

The monkeys were given fresh fruit, **and** chow was given to the rats

[**not...** given fresh fruit **and** chow]

The monkeys were given fresh fruit, **but** no water was given to the rats

[**not...** given fresh fruit **but** no water]

The winners were given a cheque, **or** a certificate was awarded to runners up

[**not...** given a cheque **or** a certificate]

The winners were given a certificate, **yet** no money was awarded to runners up

[**not...** given a certificate **yet** no money]

non-defining (coordinate adjectival) clauses

The microscope, **which has a broken lens**, needs to be repaired

are not separated by a **comma** if they are

defining (non-descriptive, relative) clauses

The microscope **that has a broken lens** needs to be repaired

See: [Absolute/non-absolute verbal constructions](#), [Defining/non-defining adjectival clauses](#), [Grammar/style](#), [Position of clauses](#), [Phrases](#), [Pronouns](#), [Relative clauses](#), [Sentences](#)

ALERT Check that descriptive **clauses** are close to the items they define

The channel's involvement has been excluded from the response to an **ionophore found in both the WT and KO spermatozoa**

ERROR *Semantics*: this states that the **ionophore** was found in both WT and KO spermatozoa

CORRECT [if the **response** to ionophore was found in both WT and KO spermatozoa] by

moving the clause in front of **response**

The channel's involvement has been excluded from the **response, found in both the WT and KO spermatozoa**, to an ionophore

Adjectival clauses

clauses acting as adjectives (describing nouns, pronouns or noun clauses)

relative subordinate adjectival clauses

defining (non-descriptive) clauses

need no comma introduced by

that (objects) The microscopes **that have poor lenses** need repair

[**only** microscopes with a poor lens need repair]

which (animals) Technicians dislike rats **which bite**

[**only** biting rats are disliked]

who (humans) Students hate professors **who show favouritism**

[**only** professors showing favouritism are hated]

non-defining (descriptive) clauses

need commas introduced by

which (objects, animals) The microscopes, **which have bad lenses**, need repair

[**all** the microscopes have bad lenses]

Technicians dislike rats, **which bite**

[**all** rats bite]

who (humans) Students dislike professors, **who show favouritism**

[**all** professors show favouritism]

See: [Adjectival clauses/appositive phrases](#), [Clauses](#), [Defining/non-defining adjectival clauses](#)

Defining/non-defining adjectival clauses

defining relative **subordinate** (non-descriptive, restrictive, limiting, essential, 'that' clauses)

need no separating comma

introduced by **that** [for things]

The microscope **that is broken lens** needs to be repaired

defines the meaning of *microscope* as the *broken* one

implies **one** thing

only the *broken* microscope needs to be repaired

the defining clause **cannot be omitted** without a change in meaning

The microscope needs to be repaired (which microscope?)

which [for animals]

Technicians dislike animals **which bite**

defines the meaning of *animals* as the *biting* ones

implies **one** thing

only the *biting* animals are disliked by technicians

the defining clause **cannot be omitted** without a change in meaning

Technicians dislike animals (which animals?)

which [to prevent repetition of **that**]

There is evidence **which** suggests **that** oxidative stress is harmful

defines the meaning of *evidence* as that *suggesting harm*

implies **one** thing

only the *harmful* evidence is of concern

the defining clause **cannot be omitted** without a change in meaning

There is evidence (of what?)

who, whom [for people]

Students dislike professors **who show favouritism**

defines the meaning of *professors* as those *showing favouritism*

implies **one** thing

only the professors *showing favouritism* are disliked by students

the defining clause **cannot be omitted** without a change in meaning

Students dislike professors (which professors?)

Scientists **who are honest** report what they observe

defines the meaning of *scientists* as the *honest* ones

implies **one** thing

only *honest* scientists report what they observe

the defining clause **cannot be omitted** without a change in meaning

Scientists report what they observe (which scientists?)

The students **to whom we gave extra tuition** passed the exam

defines the *students* as those *having received extra tuition*

implies **one** thing

only students *having received extra tuition* passed the exam

the defining clause **cannot be omitted** without a change in meaning

The students passed the exam (which students?)

when [for a time]

The time **when the train arrives** is important

defines the meaning of *time* as *that of the train's arrival*

implies **one** thing

only the train's *arrival time* is important

the defining clause **cannot be omitted** without a change in meaning

The time is important (what time?)

where [for a place]

The hotel **where we stayed** is owned by the university

defines the meaning of *hotel* as the *one we stayed in*

implies **one** thing

only the hotel *we stayed in* is University-owned

the defining clause **cannot be omitted** without a change in meaning

The hotel is owned by the University (which hotel?)

need not be introduced by **that, which, who, whom, when, where**

Androgens had no effect as the doctor claimed

defines the meaning of *doctor* as the one *claiming that androgens have an effect*

implies **one** thing

no confirmation of what the doctor claimed

the defining clause **cannot be omitted** without a change in meaning

(what was) as the doctor claimed?

non-defining relative **coordinate** (descriptive, non-restrictive, non-limiting, non-essential, 'which' clauses)

need one or a pair of **separating commas**

introduced by **which** [for things]

The microscope, **which has a broken lens**, needs to be repaired

provides **two** statements

The microscope **has a broken lens**

The microscope **needs to be repaired**

the descriptive clause **can be omitted** without a change in meaning

The microscope needs to be repaired

which [for animals]

Technicians dislike animals, **which bite**

provides **two** statements

All animals **bite**

Technicians **dislike all animals**

the descriptive clause **can be omitted** without a change in meaning

Technicians dislike animals

who [for people]

Students dislike professors, **who show favouritism**

provides **two** statements

All professors **show favouritism**

Students **dislike all professors**

the descriptive clause **can be omitted** without a change in meaning

Students dislike professors

Noun clauses

subordinate clauses (with a *finite verb*) acting as **nouns** (substantive clauses)
 as the subjects of *verbs* **That his paper was accepted by Nature indicates** its quality
 as the object of *verbs* **I don't know when the train is due**

See: [Clauses, Sentences, Substantial/substantive](#)

Phrasal clauses

a **phrase** (without a *finite verb*) used as a **clause**
 an **absolute** verbal construction controlling the **entire** sentence
 with a **comma** after the *phrase*, **not** the *subject*
The surgeons having finished the operation, the lights were dimmed
The optimal number of spermatozoa being collected, the wound was closed
The desired number of cells having been reached, the perfusion was stopped

See: [Absolute/non-absolute verbal constructions](#)

Relative clauses

subordinate clauses (with a *finite verb*) acting as **adjectives**

qualifying a **noun**

involve **relative pronouns**

whom

often elided

The **man whom** we saw at the meeting was awarded the prize

The **man we saw** at the meeting was awarded the prize

which

The **publication which** was submitted was rejected

when **two relative clauses** are joined by **coordinating** conjunctions (**and, but, yet**)

each clause can be introduced by **who** or **which**

defining clauses

The student **who** was technically competent **and who** was fast got the job

The student **who** was technically competent **but who** was slow did not get the job

The student **who** was technically competent **yet who** was slow did not get the job

non-defining clauses

The student, **who** was in his third year **and who** was thought to be considering staying on, decided to leave

The student, **who** was in his third year **but who** was thought to be leaving the University, decided to stay

The student, **who** was in his third year **yet who** was thought to be leaving the University, became a lecturer

The publication, **which** was his third that year **and which** was submitted for an award, did not receive one

The publication, **which** was his third that year **but which** was not awarded a prize, became a citation classic

The publication, **which** was his third that year **yet which** was not awarded a prize, was awarded a merit

the second **who may be omitted**

The student **who** was technically competent **and** fast got the job

The student **who** was technically competent **but** slow did not get the job

The student **who** was technically competent **yet** slow did not get the job

when **two relative clauses** are joined by **subordinating** conjunctions (**although, because**)

only one clause can be introduced by **who**

The student **who** was technically incompetent, **although she was** fast, was not promoted

The student **who** was technically incompetent **because he was** slow, was not recommended

the second **pronoun and verb may be omitted**

The student **who** was technically incompetent **although** fast was not promoted

The student **who** was technically incompetent **because** slow was not recommended

See: [And that, And which, And who, But that, But which, But who, Clauses, Pronouns, Yet that, Yet which, Yet who](#)

That clauses

subordinate noun clauses

introduced by **that** as a **subordinating conjunction**

may act as the **object** of a verb in **coordinate clauses**

take **declarative** verbs in statements that are both

shown to be true (from sufficient evidence)

thought to be true (from insufficient evidence)

We conclude that the uptake of osmolytes **is** passive

We hypothesise that sperm swelling **demonstrates** failed volume regulation

do not take prepositions

that is repeated in **coordinate clauses** linked by the coordinating conjunctions **and, but** and **yet**

He said **that** the affair was an outrage **and that** the chairman should resign

She believed **that** he was guilty **but that** he should not be punished

She believed **that**he was guilty **yet that** he should receive amnesty

that is not repeated in **subordinate clauses** introduced by **if** and **although**

He has a point **that although** the work is interesting, it would not be accepted in a high ranking journal

There is the danger **that if** it were to be published, it could receive greater legitimacy

relative subordinate adjectival clauses [defining (restrictive, limiting, essential, non-descriptive) clauses]

introduced by **that** as a **relative pronoun**

These are the inflamed organs **that require further study**

that is repeated in **subordinate clauses** linked by the coordinating conjunctions **and, but** and **yet**

The publication **that** was his third that year, **and that** was the longest to date, increased his Impact Factor

The publication **that** was written abroad, **but that** was his shortest, did not get published

The publication **that** was translated into Italian, **yet that** was published in France, made him famous

See: [And that, But that, Certainty/uncertainty, Deductive/inductive reasoning, Defining/non-defining adjectival clauses, That, Yet that](#)

ALERT Check that omitting **that does not** create **ambiguity**

The technician said **following** the advice of the student would not help

ERROR *Semantics*: discourteous, the reader **expects following** to be a **preposition** [after receiving advice] and **then realises otherwise** [following is a *gerund*]

CORRECT [to prevent confusion] by

inserting **that** before **following**

The technician said **that** following the advice of the student would not help

ALERT Check that **that clauses do not** take prepositions

I was convinced **of that** he was innocent

ERROR *Syntax*: a **that** clause **does not** take a preposition (*of*)

CORRECT by **omitting the preposition**

I was convinced **that** he was innocent

From that she was here it can be inferred that she never went to Paris

ERROR *Syntax*: a **that** clause **does not** take a preposition (*from*)

CORRECT by

inserting **the fact** before **that**

From **the fact that** she was here it can be inferred that she never went to Paris

replacing **that she was** by **her being**

From **her being** here it can be inferred that she never went to Paris

Which clauses

relative coordinate main adjectival clauses

[non-defining (non-restrictive, non-limiting, non-essential, descriptive) clauses]

introduced by **which** as a *relative pronoun*

These are the inflamed organs, **which require further study**

which is repeated in coordinate clauses linked by the coordinating conjunctions **and**, **but** and **yet**

The publication, **which** was his third that year, **and which** was submitted for an award, was a citation classic

The publication, **which** was his third that year, **but which** was not awarded a prize, was give special recommendation

The publication, **which** was his first that year, **yet which** was not selected for publication, was never published

See: [And which](#), [But which](#), [Defining/non-defining adjectival clauses](#)

Open/remote conditional clauses

open (real) conditionals

the options are **open**: the results of action are **likely to be true** (real)

future-time open (conditional clause) and [main clause]

will it be true in the future?

future declarative mood with **future declarative**

(If it **rains**), [I'll **take** an umbrella]

present-time open (conditional clause) and [main clause]

is it true now?

present declarative mood with **present declarative**

(If I **am acting** improperly), [I **can't** help it]

past declarative mood with **present declarative**

(If Dr Cooper **knows** the answer), [he **isn't** saying]

past declarative mood with **future declarative**

(If I **was acting** improperly), [I **apologise**]

past-time open (conditional clause) and [main clause]

was it true in the past?

past declarative mood with **past declarative**

(If he **was acting** improperly), [he **will apologise** later]

(If Dr Cooper **knew** the answer), [he **wasn't** saying]

remote (unreal) conditionals

the possibility is **remote**: the results of action are **unlikely to be true** or **are impossible** (unreal)

future-time remote (conditional clause) and [main clause]

what may happen (but may not)

present subjunctive mood with **present conditional**

(If I **had** time), [I **would help** you]

(If he **won** the prize), [he **would give** the money to charity]

present-time remote (conditional clause) and [main clause]

what might be happening now (but isn't)

past subjunctive mood with **present conditional**

(If I **were acting** improperly), [I **should resign** now]

(If Dr Cooper **won** the poster prize), [he **would tell** us]

past-time remote (conditional clause) and [main clause]

what might have happened in the past (but didn't)

past perfect declarative mood with **past perfect conditional**

(If he **had come**), [you **would be enjoying** his company]

(If Dr Cooper **had won** the poster prize), [he **would have told** us]

See: [Conditional mood](#), [Conditional statements](#)

Position of clauses

the **position** of clauses may **alter the meaning** of a sentence

adjectival clauses modify the *noun immediately to the left* of them

The **student, who had come back from a meeting in Barcelona**, returned to the Dutch lab. of her professor

[the **student** had been to Barcelona]

The student returned to the Dutch lab. of her **professor, who had come back from a meeting in Barcelona**

[the **professor** had been to Barcelona]

a subordinate clause coming **before** the main clause requires much memorisation

On the basis of the sequences of these two fragments, two pairs of primers (FP1/RP1, FP2/RP2) were synthesised

[the **verb** referred to by **on the basis of** [synthesised] is only reached **at the end** of the sentence]

inverting the sentence brings clarity

Two pairs of primers (FP1/RP1, FP2/RP2) **were synthesised on the basis of** the sequences of these two fragments
[the **verb** referred to **immediately precedes on the basis of**]

ALERT Check that **substituted words** refer to the **intended noun**

Isoforms of another pro-angiogenic factor and its receptor are present in the epididymis, but in the epithelium not the stroma, a **site** inconsistent with a vascular role

ERROR *Semantics:* ambiguous, **it is unclear** what **site** refers to, since the immediate antecedent **stroma**, with blood vessels, is a site **consistent (rather than inconsistent)** with a vascular role

CORRECT [if the **epithelium** is meant] by **rewriting the sentence** by exchanging positions of **not the stroma** and **but in the epithelium**

Isoforms of another pro-angiogenic factor and its receptor are present in the epididymis, **not in the stroma but in the epithelium**, a **site** inconsistent with a vascular role

exchanging positions of a site inconsistent with a vascular role and the epithelium not the stroma

Isoforms of another pro-angiogenic factor and its receptor are present in the epididymis **but at a site** inconsistent with a vascular role: the **epithelium** not the stroma

SENTENCES

Sentences

groups of words relating to the same topic

starting with a **subject** (the topic)

followed by a **predicate** (commenting on the topic)

expressing what is **asserted** by the finite **verb**

expressing what is **asserted** by the **subject**

subject

simple subject of a **verb**

a **noun**

a **pronoun**

an **adjective**

a **gerund**

an **infinitive**

a **phrase**

a **clause**

complete subject of the **simple** subject with **qualifiers of adjectives**

nouns

mixed

compound subjects

more than one **subject**

predicate

simple predicate is the **predicate verb** alone

for **verbs of complete predication**

linking verbs

requiring **no complement**

intransitive verbs

requiring **no object**

complete predicate contains

for **verbs of incomplete predication**

linking verbs

requiring **subject complements**

transitive verbs

requiring **objects**

begin with

words

not unaccompanied numbers

a **capital letter**

unless it is a prefix

end with

a single full stop (.) in **declarative** and **imperative** sentences

followed by a single space and a **capital letter**

but not after

a terminal abbreviation

a terminal exclamation mark

a terminal question mark

a single exclamation mark (!) in **exclamatory** sentences

followed by a single space and a **capital letter**

also after

a terminal abbreviation

a single question mark (?) in **interrogative** sentences

followed by a single space and a **capital letter**

also after

a terminal abbreviation

The **mice** **have** no fur

They **have** no fur

Extraordinary **comes** to mind

Correcting English **is** my hobby

To resign **is** the best thing to do now

To make the cells form a monolayer **is** the aim

What he said **was** true

The **white mice** **have** no immune system

The **mutant mice** **have** no fur

The **grey mutant mice** **are** deaf

The mice and hamsters **have** no fur

I **am**

The spermatozoa **swim**

The spermatozoa **became hyperactivated**

I **unravalled the epididymal tubule**

One hundred patients took part in this study

not 100 patients took part in this study

Quinine was used to block potassium channels

myo-Inositol was substitute or sucrose in the controls

c-Ros is expressed in the epididymal initial segment

This is an epididymis. This is an epididymal cyst.

He arrives at 3 a.m.

This is an enormous spermatocoele!

Is this a spermatocoele?

Amazing! This is an enormous spermatocoele!

I don't believe he arrives at 3 a.m.!

Is this an epididymal cyst? Or is it a spermatocoele?

Does he arrive at 3 a.m.?

categories of sentence

simple sentences (clauses)

with **one** [main/verb] clause

[We enclose our revised manuscript with this letter].

compound sentences

with **at least two** [main] clauses **joined** by a

co-ordinating conjunction

[I shall attend the meeting] **and** [she will accompany me].

[We enclose our revised manuscript with this letter] **and** [supply a list of the changes made].

colon

[He watched the video-camera screen]: [the cultured cells were dividing].

semicolon

[He watched the video-camera screen]; [the cultured cells were dividing].

complex sentences

with **at least one** [main] and **at least one** (subordinate) clause

(If I attend the meeting), [she will accompany me]

with the **same** or **different** verbal moods

[declarative] (declarative)

[It **is important**] (that she **enjoys** the staff's confidence).

[It **is intended**] (that the work **shall be finished** this week).

[declarative] (subjunctive)	[It is important] (that she enjoy the staff's confidence).
[conditional] (declarative)	[It was intended] (that the work should be finished this week).
(subjunctive) [conditional]	[I should like to apply for the position] (but I am too young).
	[They would like to publish there] (but its Impact is too low).
	(If it were possible) [I would attend].
	(If you were to do that) [you would be fined].
when the [main] comes first	
no comma separates the clauses	[I shall not attend the meeting] (unless I am invited).
	[We now enclose our revised manuscript] (because the deadline is approaching).
	[We now supply a list of the changes made] but [shall send the modified Figures] (after we have retaken some micrographs).
when the (subordinate) clause comes first	
a comma follows it	(Unless I am invited), [I shall not attend the meeting],
	(Because the deadline is approaching), [we now enclose our revised manuscript].
	(After we have retaken some micrographs), [we shall send the modified Figures] but [now supply a list of the changes made].
compound-complex sentences	
with many [main] and (subordinate clauses)	(Although the student took the liquefied semen sample) and [layered it gently under the capacitating medium in a tube tilted at 45°], (which allows the spermatozoa to swim up slowly), [it was not possible to separate all the aggregating proteins from the recovered, motile spermatozoa].
cleft sentences	
emphasise elements in a <i>separate clause</i>	That was the Chancellor you were talking to
corresponding sentences	
from which a relative clause is theoretically derived	
clause	Although the professed aim of the research was to confirm his hypothesis...
corresponding sentence	The professed aim of the research was to confirm his hypothesis.
conditional clauses may require a change in tense	
clause	If you meet Silvia... [conditional]
corresponding sentence	You will meet Silvia. [future declarative] not You meet Silvia
clause	She said that she would meet me [conditional]
corresponding sentence	She will meet me. [future declarative] not She would meet me
subjunctive clauses may require a change in mood	
clause	I wish that I were young again [subjunctive]
corresponding sentence	I am young again. [declarative] not I were young again
declarative sentences	
declarative verb mood for assertions	The culture dishes are sterilised.
exclamatory sentences	
exclamatory verb mood for feelings	Don't forget to turn off the UV light!
imperative sentences	
imperative verb mood for commands	Sterilise the bench before you leave the culture room.
interrogative sentences	
interrogative verb mood for questions	Are the culture dishes sterilised?

See: [Clauses](#), [Cleft sentences](#), [Complements of verbs](#), [Conditional mood](#), [Declarative \(indicative\) mood](#), [Full stop/colon/semicolon](#), [Imperative mood](#), [Interrogative mood](#), [Finite/non-finite verbs](#), [Implied meanings of sentences](#), [Numbers in words/figures](#), [Parsing of sentences](#), [Phrases](#), [Punctuation](#), [Structure of sentences](#)

ALERT Check the **format** when beginning sentences **with numbers**

743 proteins were detected in the gels

ERROR *Syntax*: sentences **should not** start with **figures** written as **numbers**

CORRECT by

replacing **numbers** by **words**

Seven hundred and forty-three proteins were detected in the gels

using a **partitive construction** with the **singular**

A total of 743 proteins **was** detected in the gels

ALERT Check the **format** when beginning sentences **with prefixes**

Myo-inositol was used to lower ionic strength

STYLE *Word usage*: prefixes **should not** be **capitalized**

CHANGE by **capitalizing the first letter** of the **noun**

myo-Inositol was used to lower ionic strength

C-ros is expressed in the initial segment

STYLE *Word usage*: prefixes **should not** be **capitalised**

CHANGE by **capitalizing the first letter** of the **word**

c-Ros is expressed in the initial segment

ALERT Check the meaning when complex sentences have **many clauses**

The method can identify functional specialisation in circuits that preserve functionality due to neuronal reorganisation

ERROR *Semantics*: ambiguous, **it is unclear what** is caused by reorganisation

so **this could be interpreted as** the neuronal reorganisation being responsible for

the **ability to identify** specialisation

or

the **preservation** of functionality

or

the **functionality** itself

CORRECT [if the 1st is meant] by **emphasising** the **verb** by

replacing *due to* by *owing to* after ***specialisation***

The method can **identify** functional specialisation ***owing to*** neuronal reorganisation in circuits that preserve functionality

CORRECT [if the 2nd is meant] by **emphasising** the ***preservation of functionality*** by

inserting *only* after ***specialisation*** and **replacing *due to*** with ***by*** after ***functionality***

The method can identify functional specialisation ***only*** in circuits that preserve functionality ***by*** neuronal reorganisation

CORRECT [if the 3rd is meant] by **emphasising** the ***functionality*** by

inserting *only* before ***functionality***

The method can identify functional specialisation in circuits that preserve ***only*** functionality ***due to*** neuronal reorganisation

Grammar/style

grammar

the art of **speaking and writing** a language with accuracy and taste

a database, algorithm, protocol, set of rules governing the form and meaning of words and sentences

(***not*** guidelines on how to write)

writing involves

letters the twenty-six vowels (5) and consonants (21) of the Latin alphabet

forming

syllables

units of **pronunciation**

with one **vowel sound**

comprising

words

units of **language**

of one or more **syllables**

forming

phrases

word groups ***without*** a finite verb

usually not **defining an action**

clauses

word groups ***with*** a finite verb

usually **defining an action**

comprising

sentences

complete ideas expressed in words

forming

paragraphs

connected **sequences of sentences**

with a **general unity of theme**

comprising

a **discourse**

a connected **sequence of paragraphs**

e.g. manuscript

punctuation joining or separating the above elements to provide appropriate meaning

a **set of rules** for writing

widely received

about which there is little disagreement

consists of

etymology

the **classification, inflection** and **origin** of words

orthography

conventional **spelling** and **punctuation**

semantics

the **meaning** of a word, phrase, sentence or text

syntax

the **rules** governing sentence construction

the arrangement of words and phrases to create well-formed sentences

word usage in grammar

refers to word selection

language

depends on the audience

British/American/Australian English

tone (register)

reflects attitudes of the writer

informal (layman)/formal (scientific)

scientific writing is

formal/serious/guarded

style

a **set of conventions** regarding language usage

generally ***not*** grammatical in nature

about which there may be disagreement

each Journal has its **own style** for

abbreviation

capitalisation

italicisation

punctuation

spelling

good scientific style **maximises** the **transfer of information** from the writer to the reader

choose the most appropriate

words

punctuation

position of words, phrases, clauses, punctuation

add variation with

pronouns

to avoid ***repetition***

synonyms

to prevent ***monotony***

be courteous

the reader **should not have to re-read** the text because

abbreviations are ***too many*** or ***not explained***

punctuation is ***lacking***

text is ***too long***

verbs are widely ***separated from adverbs***

words are in an ***unusual order***

do not assume the reader

can guess meaning remove the **ambiguous**

cannot count

remove the **annoying**

cannot think

remove the **obvious**

proof-read your work

confirm that you **write** what you **mean**

should it be semen from **rabbis** or **rabbits**?

should it be a **spilt** or **split** ejaculate?

explain abbreviations

is **AI**

Artificial Insemination

or

Artificial Intelligence?

is **CCTV**

Closed-Circuit Television

or

China Central Television

is **CV**

Coefficient of Variation

or

Curriculum vitae

is **EAA**

European Academy of Andrology

or

European Academy of Acupuncture?

is **EDL**

Efferent Duct Ligation

or

Extensor Digitorum Longus?

remove the

font formatting

solely used for emphasis

non-scientific	clichés idioms jargon proverbs layman's terms
pompous	use Plain English
unnecessary	excessive repetition or meaningless, overused, vague words or phrases

See: [Anthropogenic/anthropometric/anthropomorphic/anthropomorphism](#), [Cliché/idiom/proverb](#), [Descriptive/prescriptive/proscriptive grammar](#), [Inflection of words](#), [Jargon/layman terminology](#), [Language/linguistics](#), [Phonetics/phonology](#), [Plain English](#), [Prolix/prolixity](#), [Sentences](#), [Solecism](#), [Spelling](#), [Syllables](#), [Verbiage/verbose/verbosity](#)

ALERT Check that you have written **what you mean**

The testosterone **levels** in the treated pre-pubertal males **reached the high levels** of an adult

ERROR *Semantics*: a level (which stays where it is) cannot reach a level

CORRECT by **using concentration**

The testosterone **concentrations** in the treated pre-pubertal males reached the high levels of an adult

ALERT Check that what you have written **cannot be misinterpreted**

Of the two sperm populations, one **had** epithelial contact and **intact** acrosomal membranes, and the other **did not have** epithelial contact and **damaged** acrosomal membranes

ERROR *Semantics*: ambiguous, the sentence appears to be symmetrical (the first clause being positive [**having**] and the second being negative [**not having**]) but it is not, as the nature of the membranes also changes from **intact** (in the first) to **damaged** (in the second) so **this could be interpreted as** the second population

not having damaged membranes [they had **intact** membranes]

or

not having intact membranes [they had **damaged** membranes]

CORRECT [if the **former** is meant] by

emphasising the **discrepancy within** groups by replacing the **second and** by **but**, and **repeating** the **verb**

Of the two sperm populations, one had epithelial contact and intact acrosomal membranes, and the other did not have epithelial contact **but had** intact acrosomal membranes

CORRECT [if the **latter** is meant] by

emphasising the **distinction between** groups by **repeating the negated nouns**

Of the two sperm populations, one had epithelial contact and intact acrosomal membranes, and the other had **neither** epithelial contact **nor** intact acrosomal membranes

ALERT Check that what you have written **does not** surprise the reader

The aqueous layer was removed, the solvent concentrated, and the residue exploded

ERROR *Semantics*: the reader **expects passive** verbs in each clause, which gives the **unintended impression** that the **residue was exploded** deliberately

CORRECT [if the residue **exploded accidentally**, as a consequence of solvent concentration] by **inserting** an **adverb** to the final clause

The aqueous layer was removed, the solvent concentrated, and **then** the residue exploded

introducing a **subordinate clause** by **inserting** a **preposition** and a **conjunction**

After the aqueous layer was removed **and** solvent concentrated, the residue exploded

Colloquialism/dialect/jargon/slang/Standard English

<i>colloquialism</i>	informal form of Standard English, used at home, with friends not used in formal written scientific text between the levels of Standard English and slang may be promoted to Standard English if it gains respectability demoted to slang if it loses respectability
<i>dialect</i>	regional speech and pronunciation not current enough to be called slang not used in formal written scientific text below the level of Standard English may pass into slang if it gains respectability
<i>jargon</i>	technical words or expressions used by specialists in a field used in formal written scientific text at the level of Standard English colloquial speech not current enough to be called slang not used in formal written scientific text below the level of Standard English may pass into slang if it gains respectability
<i>slang</i>	colloquial speech consisting of new words or current words used in a special context not used in formal written scientific text below the level of Standard English may be promoted to colloquialism if it gains respectability
<i>Standard English</i>	the form of English spoken by cultured people in Great Britain (Received Pronunciation, RP) used in formal written scientific text excludes dialect and slang, but may include jargon in its technical sense

See: [Idiomatic word usage](#), [Jargon/layman terminology](#), [Plain English](#)

Cliché/idiom/proverb

<i>cliché</i>	an overused expression whose original meaning is lost and whose use is irritating
figurative	its raining cats and dogs [it is raining very hard]
literal	all's well that ends well [as long as the outcome is good, it does not matter how it was achieved]

<i>idiom</i>	a group of words established by usage as having a meaning not deducible from those of the individual words	
	figurative transparent	to lay your cards on the table [to disclose]
		to see the light [to realise or understand something]
	figurative opaque	over the moon [extremely pleased or happy]
		to pull your leg [to tease, to say something that is untrue, for fun]
		to smell a rat [to be convinced that something is wrong]
<i>proverb</i>	a short statement of a general truth , condensing common experience into memorable form	
	a bird in the hand is worth two in the bush	[it's preferable to have a small certain advantage than a potential greater one]
	out of sight, out of mind	[we tend to stop thinking about something when it is out of our view for long]
	the devil is in the detail	[to remind someone to pay attention to the details]

See: [Grammar/style, Idiomatic word usage](#)

Idiomatic word usage

containing or denoting expressions that are **natural** to a **native speaker** but which may be **formally ungrammatical**

it is **idiomatic** English to [omit]

may from **adverbial clauses of purpose**

He worked hard **to become** an engineer

[... hard **that he may** become...]

She is telling everyone in order that everyone **know** the facts

[... everyone **may** know...]

might from **adverbial clauses of purpose**

He worked hard **to gain** promotion

[... hard **so that he might** gain...]

She told her story in order that everyone **know** the facts

[... everyone **might** know...]

He said nothing so that he **not be punished**

[... he **might** not be...]

shall from the **future perfect tense**

It is intended that the work **be finished** this week

[... work **shall** be finished...]

After I **have** finished my work, I shall come to see you

[... I **shall** have finished...]

As soon as I **have** finished my work, I shall come to see you

[... I **shall** have finished...]

If I **have** finished my work, I shall come to see you

[... I **shall** have finished...]

When I **have** finished my work, I shall come to see you

[... I **shall** have finished...]

should from the **subjunctive mood**

Supposing his flight **were** today, they would meet tomorrow

[... flight **should be** today...]

If he **did** that, I should help him

[... he **should do** that...]

The Treasurer demanded that he **pay** his subscription

[... he **should pay**...]

The librarian requested that he **keep quiet**

[... he **should keep quiet**]

If you **see** them tomorrow give them my regards

[... you **should see** them...]

I prefer that he **stay on** next year

[... he **should stay on** next...]

It is essential that he **stop**

[... he **should stop**]

She is permitted to enter on condition that she **wear** a mask

[... she **should wear** a...]

I propose that he **be asked** to remain

[... he **should be asked** to...]

If he **were doing** that, you would be helping him

[... he **should be doing** that...]

It was intended that the work **be finished** this week

[... work **should be finished** this...]

If he **were living** here now, he would be enjoying the view

[... he **should be living** here...]

He will say nothing in case he **be punished**

[... he **should be punished**]

He will say nothing in order that he **not be punished**

[... he **should not be punished**]

It is unfortunate that he **is offended**

[... he **should be offended**]

If he **had come**, we should be enjoying his company

[... he **should have come**, we...]

If he **had done** that, they would have helped him

[... he **should have done** that...]

were from the **subjunctive mood**

If he **arrived** tomorrow I would be very surprised

[... he **were to arrive** tomorrow...]

If he **did** that, I should help him

[... he **were to do** that...]

If he **sterilised** the bench, I should be surprised

[... he **were to sterilise** the...]

If she **studied** harder, she would pass the exam

[... she **were to study** harder...]

If I **won** a million dollars, I could stop working

[... I **were to win** a...]

If he **had come**, we would be enjoying his company

[... he **were to have come**, we...]

If he **had done** that, they would have helped him

[... he **were to have done** that...]

If only you **had listened** to me, you would have passed the exam

[... you **were to have listened** to...]

If she **had taken** that plane she would have arrived at 22.00

[... she **were to have taken** that...]

See: [Cliché/idiom/proverb, Ellipsis, Light/phrasal verbs](#)

Implied meanings of sentences

a sentence containing a **coordinating conjunction not introducing** a whole clause

is **always short for one** in which it does

implied words are [elided] but intended to be understood

implied **subjects, verbs and articles**

with **and** I have a book **and** pen

I have a book **and** [I have a] pen

She **has** a book, pen **and** some paper

She has a book, [she has a] pen **and** [she has] some paper

with **or** He wants a book **or** pen

He wants a book **or** [he wants a] pen

They **need** a pencil, paper **or** a calculator

They need a pencil, [they need] paper **or** [they need] a calculator

with **but** I have a book **but not** a pen

I have a book **but** [I do not have] a pen

You have a book, pen **but** no paper
 You have a book, [you have a] pen **but** [you have] no paper
 with **yet** I have a book **yet not** a pen
 I have a book **yet** [I do not have] a pen
 You have a book, pen **yet** no paper
 You have a book, [you have a] pen **yet** [you have] no paper
 implied **adjectives** defining the **first noun**
 with **and** it **applies** to the **second noun** if it is
 the **first noun** with **no comma**
 I have a **red** book **and** pen
 I have a **red** book **and** [I have a **red**] pen
 Gene knockdown **led to decreased** nucleotide release **and** monocyte recruitment
 Gene knockdown led to decreased nucleotide release **and** [led to **decreased**] monocyte recruitment
 it **applies** to **all nouns**
before and **after** the conjunction
 I have a **stainless steel** scalpel, forceps **and** scissors
 I have a **stainless steel** scalpel, [I have **stainless steel**] forceps **and** [I have **stainless steel**] scissors
 I have a scalpel **and stainless steel** forceps **and** scissors
 I have a scalpel **and** [I have] **stainless steel** forceps **and** [I have **stainless steel**] scissors
 it **does not** apply to the **second noun** if it is
 the **first noun** and there is a **comma** to separate clauses of equal importance
 I have a **red** book, **and** a pen
 I have a **red** book, **and** [I have] a pen
 with **but** it **applies** to **all nouns**
before and **after** the conjunction
 I have a **stainless steel** scalpel, forceps **but no** scissors.
 I have a **stainless steel** scalpel, [I have **stainless steel**] forceps **but** [I have] **no** [stainless steel] scissors
 I have a scalpel **and stainless steel** forceps **but no** scissors.
 I have a scalpel **and** [I have] **stainless steel** forceps **but** [I have] **no** [stainless steel] scissors
 implied **positive** action of the **first verb**
 with **and** **all items** **before** and **after** the conjunction
 are **positive**
 I have a scalpel, forceps **and** scissors
 I have a scalpel, [I have] forceps **and** [I have] scissors
 with **but** **only items** **after** the conjunction
 are **negative**
 I have a scalpel **and** forceps **but no** scissors
 I have a scalpel **and** [I have] forceps **but** [I have] **no** scissors
 I have a scalpel **but no** forceps **or** scissors
 I have a scalpel **but** [I have] **no** forceps [and I have **no**] scissors
 with **yet** **only items** **after** the conjunction
 are **negative**
 I have a scalpel **and** forceps **yet no** scissors
 I have a scalpel **and** [I have] forceps **yet** [I have] **no** scissors
 I have a scalpel **yet no** forceps **or** scissors
 I have a scalpel **yet** [I have] **no** forceps [and I have **no**] scissors
 implied **negation** of the **first verb** (by **does not**)
 with **and** the **second verb** is **negated**
only if it is an infinitive
 I'll be surprised **if he does not go and attend** it
 as **he** (3rd person singular) requires **attends**, **attend** is a **base infinitive**
 the **second verb** is **negated**
 I'll be surprised **if he does not go and** [if he does not] **attend** it
 the **second verb** is **not negated**
if it is not an infinitive
 I'll be surprised **if he does not go and attends** it
 as **he** (3rd person singular) requires **attends**, **attends is not** an infinitive
 the **second verb** **not negated**
 I'll be surprised **if he does not go and** [if he does] **attend** it
 with **or** **all items** **before** and **after** the conjunction
 are **negated**
 I **have no** scalpel, forceps **or** scissors
 I **have no** scalpel, [I **have no**] forceps [and I **have no**] scissors
It is not sensible, wise **or** prudent to do so
It is not sensible, [it is not] wise [and it is not] prudent to do so
Don't guess, use a timer **or** watch
Don't guess, [don't] use a timer [and don't use a] watch
 with **but** **all items** **before** the conjunction are **negated**
 and those **after** the conjunction are **positive**
 I **have no** scalpel, forceps **but** scissors
 I **have no** scalpel, [I **have no**] forceps **but** [I have] scissors
 I **have no** scalpel **but** I **have** forceps **and** scissors
 I **have no** scalpel **but** I **have** forceps **and** [I have] scissors
 with **yet** **all items** **before** the conjunction are **negated**
 and those **after** the conjunction are **positive**
 I **have no** scalpel, forceps **yet** scissors

I **have no** scalpel, [I **have no**] forceps **yet** [I **have**] scissors
 I **have no** scalpel **yet** I **have** forceps **and** scissor
 I **have no** scalpel **yet** I **have** forceps **and** [I **have**] scissors

See: [Choice of punctuation](#)

Ellipsis

noun	the omission from speech or text of [superfluous words] that can be understood from contextual clues
	adverbial objectives The books cost [the sum of] HK\$500
	the future perfect tense After I [shall] have finished my work, I shall come to see you
	the conditional mood [If you had] Had you sent me an email, I would have known earlier
	the subjunctive mood
	future He will say nothing lest he [should] be punished He will say nothing in order that he [may] not be punished
	present He is allowed in on condition that he [should] wear a mask She tells everyone in order that everyone [may] know the facts
	past The librarian requested that he [should] keep quiet She told her story in order that everyone [might] know the facts
	prepositional phrases Osmolality was measured with [the use of] an osmometer
	to avoid repetition of easily-remembered words closely following one another
	verb with articles I have a pen and [I have a] pencil We dissected the testis and [we dissected the] epididymis
	adjectives I have a red pen and [I have a red] pencil
	negatives I have no forceps or [and I have no] scissors
	one subject The solution was heated, [was] filtered and [was] concentrated
	two subjects The solution was concentrated, and the precipitate [was] removed
	three subjects The solution was cooled, the precipitate [was] removed and the filtrate [was] dried
	prepositions They came in spring, [in] summer and [in] winter
	pronouns I centrifuged the samples and [I] removed the supernatant
punctuation	a set of three dots (...) followed by one space
	replacing unnecessary words To recap, the manuscript was good... methods were unsound... a revision was needed
	at the end of a sentence/question/exclamation followed by one space and a full stop/question/mark exclamation mark The meeting was about to begin... Does he believe that... ? I won't accept that... !
	at the end of rational number decimal places
	a finite number with a repeating pattern indicating repetition $1/3 = 0.333\ 33...$
	irrational number decimal places
	an infinite number with no repeating pattern indicating the lack of an end $\pi = 3.141\ 59...$

See: [Clauses](#), [Idiomatic word usage](#), [Implied meanings of sentences](#), [Irrational/rational numbers](#), [Presence of ellipsis](#), [Punctuation](#)

ALERT Check that **ellipsis is not** used for subjects governing **two verbs** of different number

The **solution** was concentrated, and the **crystals** removed

ERROR *Syntax*: the first subject is **singular**, the second **plural**, and **so implies that** the **crystals was** removed

CORRECT by **using one verb** for each subject

The solution **was** concentrated, and the crystals **were** removed

ALERT Check that **ellipsis is not** used for **two subjects** governing three verbs

The solution was **cooled**, the precipitate **removed** and **dried**

(The solution was **cooled**, the precipitate [was] **removed** and [the precipitate was] **dried**)

STYLE *Word usage*: a **noun is expected** for each verb, but **dried has no subject**

CHANGE by

inserting a verb after **precipitate**

The solution was cooled, the precipitate **was** removed and dried

(The solution was cooled, the precipitate **was** removed and [was] dried)

inserting a conjunction to join the participles sharing the elided verb

The solution was cooled **and** the precipitate removed and dried

(The solution was cooled **and** the precipitate [was] removed and [was] dried)

Presence of ellipsis

the **presence or absence of ellipsis** may **alter the meaning** of sentences

a sentence with **no serial** comma

with **no ellipsis**

Jennifer **introduced me to** Stanley, **introduced me to** her supervisor and **introduced me to** her friend

has a **clear** meaning: I was introduced to **three** people (Stanley/supervisor/friend)

indicated by repetition of **[introduced me to]** preceding each object

with **partial ellipsis** via removal of two of the repeated **[introduced me]** phrases

Jennifer **introduced me to** Stanley, **to** her supervisor and **to** her friend

still has a **clear** meaning: I was introduced to **three** people (Stanley/supervisor/friend)

indicated by the repetition of **[to]** preceding each object

with **complete ellipsis** via removal of two of the repeated **[introduced me to]** phrases

Jennifer **introduced me to** Stanley, her supervisor and her friend
 has a **different** meaning: I was introduced to **one** person (Stanley who is both supervisor and friend)
 [in the absence of **to**, the **single** comma separates **two** appositive nouns (supervisor, friend) describing Stanley]
 a sentence with a **serial comma**
 with **no** ellipsis
 Jennifer **introduced me to** Stanley, **introduced me to** her supervisor, and **introduced me to** her friend
 has a **clear** meaning: I was introduced to **three** people (Stanley/supervisor/friend)
 indicated by repetition of [**introduced me to**] preceding each object
 with **partial ellipsis** via removal of two of the repeated [**introduced me**] phrases
 Jennifer **introduced me to** Stanley, **to** her supervisor, and **to** her friend
 still has a **clear** meaning: I was introduced to **three** people (Stanley/supervisor/friend)
 indicated by the repetition of [**to**] preceding each object
 with **complete ellipsis** by removal of two of the repeated [**introduced me to**] phrases
 Jennifer **introduced me to** Stanley, her supervisor, and her friend
 has a **different** meaning: I was introduced to **two** people (Stanley/friend)
 [in the absence of **to**, the **two** commas now enclose **one** appositive nouns (supervisor) describing Stanley]

See: [Presence of prepositions](#)

Negative/positive contexts

negative contexts

are associated with certain

conjunctions

or

There **were no** correlations between serum testosterone, epididymal weight **or** carnitine transport

discontinuous correlative conjunctions

either... or

Sperm motility **was not affected** by **either** quinine **or** verapamil

neither... nor

Sperm motility **was affected** by **neither** quinine **nor** verapamil

so long as

X **is not so long as** Y

indefinite pronouns

either of

It **does not affect either of** them

neither

Neither are affected by the treatment

no one

No one is obliged to attend

No one wants to do it

nothing

Nothing is for sale

quantitative adjectives

any

Changes **were not seen** in **any** group

I **did not find any** hydrogen peroxide

I **shall not do** it on **any** occasion

either

Ligation **does not affect either** parameter

none

None of the patients **have** cryptorchidism

positive contexts

are associated with other

conjunctions

and

There **were** positive correlations between serum testosterone, epididymal weight **and** carnitine transport

discontinuous correlative conjunctions

both... and

Sperm motility **was affected** by **both** quinine **and** verapamil

either... or

The transport **can be affected** by **either** X **or** Y

as long as

X **is as long as** Y

indefinite pronouns

both

Both are affected by the treatment

both of

It **affects both of** them

everyone

Everyone is obliged to attend

someone

Someone wants to do it

everything

Everything is for sale

quantitative adjectives

every

Changes **were seen** in **every** group

some

I **did find some** hydrogen peroxide

all

I **shall do** it on **all** occasions

All of the patients **have** cryptorchidism

each

Ligation **affects each** parameter

ALERT Check the **nature** of the context

The city reported **no** new local cases—**both** symptomatic **and** asymptomatic—of Covid-19

STYLE *Syntax*: the sense is **negative** (no cases) but **both... and** is used

CHANGE by replacing **both... and** by **neither... nor**

The city reported **no** new local cases—**neither** symptomatic **nor** asymptomatic—of Covid-19

The city reported **many** new local cases—**either** symptomatic **or** asymptomatic—of Covid-19

STYLE *Syntax*: the sense is **positive** (many cases) but **either... or** is used

CHANGE by replacing **either... or** by **both... and**

The city reported **many** new local cases—**both** symptomatic **and** asymptomatic—of Covid-19

Plain English

makes reading and understanding **easier**

improves the transfer of information from author to reader

involves preferring the

concrete to the (abstract)	decreased (altered, changed)	increased (altered, changed)	
ordinary to the (pretentious)	after (subsequent to)	because of (owing to)	before (in advance of, precede, previous to, prior to)
	caused by (due to)	controversial (polemical)	demanding (exigent)
	lengthy (prolix, verbose)	next to (adjacent to)	pressing (exigent)
	until now (heretofore, hitherto)		until then (theretofore, thitherto)
positive to the (negative)	dishonest (not honest)	distrust (did not trust)	forgot (did not remember)
	insensitive (not sensitive to)	trifling (not important)	ignored (did not pay attention to)
short to the (long)	about (in the order of)	approve (sign off on)	because (taking into consideration the fact that)
	big (extensive, massive)	can (are capable of)	counter (counting instrument)
	delay (hold off on)	larger (presenting a larger size)	many (a great number of)
	much (a great deal of, a large amount of)		
simple to the (complex)	about (concerning, regarding)	always (invariably)	ask (request)
	buy (purchase)	colleague (peer)	complete (finalise)
	confront (face off)	end (conclude, terminate)	finish (finalise)
	have (possess)	important (crucial)	later (subsequently)
	occur (eventuate)	often (frequently)	part (component)
	present (gift)	rich (affluent, wealthy)	start (commence)
	use (employ, utilise)	used to (accustomed to)	way in (entrance)
	x-axis (ordinate)	y-axis (abscissa)	way out (exit)
English to the (foreign)	about (<i>circa</i>)	among other things (<i>inter alia</i>)	essential condition (<i>sine non qua</i>)
	in relation to (<i>via-à-vis</i>)	instead of (<i>in lieu of</i>)	relating to (<i>apropos</i>)

See: [Grammar/style](#), [Overused words](#), [Prolix/prolixity](#)

Proofreading

checking a manuscript for errors before submission

in general	clauses	should they be defining or non-defining?
	modifiers (gerunds/infinitives/participles)	are they dangling?
	prepositions	are they correctly matched with the verb?
	pronouns	is there agreement in number and person their relevant nouns?
	sentences	is there agreement in number and person of nouns with verbs?
	verbs	are the cases, forms, moods and tenses correct?
	vocabulary	are the words appropriate and spelt correctly?
journal-specific	form of citations in the text	should they be numbers/words
	form of references in the reference list	should they have all, a certain number or only the first author
		should it be et al. or <i>et al</i> ?
	journal abbreviations	are they correct?

See: [Grammar/style](#), [Plain English](#), [Position of modifiers](#), [Sentences](#)

ALERT Check that what you **write** is what you **mean**

Some patients with testicular tumours did freeze their spermatozoa

ERROR *Semantics*: this implies that **the patients** performed the cryopreservation

CORRECT [if lab. **technicians** prepared the patients' spermatozoa] by

replacing the active by the passive voice

Some patients with testicular tumours did **have their spermatozoa frozen**

Those men who were older and had already given birth were more willing to preserve their spermatozoa

ERROR *Semantics*: this implies that **the men** had given birth

CORRECT [if their **spouses** had given birth] by

inserting whose spouses

Those men who were older and **whose spouses** had already given birth were more willing to preserve their spermatozoa

Parsing of sentences

resolving a sentence into its component parts and describing their syntactic roles

for the **compound-complex** sentence:

"Although the student took the liquefied semen sample and layered it gently under the capacitating medium in a tube tilted at 45°, which allows the spermatozoa to swim up slowly, it was not possible to separate all the aggregating proteins from the recovered, motile spermatozoa."

this **sentence** comprises

a **main clause** [it was not possible to separate all the aggregating proteins from the recovered, motile spermatozoa.]

a **subordinate clause** (the student took the liquefied semen sample and layered it gently under the capacitating medium in a tube tilted at 45°, which allows the spermatozoa to swim up slowly,)

linked by a **conjunction** although

the **subordinate clause** comprises

a **subject** the student

two **predicates** took the liquefied semen sample,
layered it gently under the capacitating medium in a tube tilted at 45°,

that include	an adverbial phrase an adjectival phrase a non-defining adjectival clause	under the capacitating medium in a tube tilted at 45° which allows the spermatozoa to swim up slowly and
linked by a conjunction		
the main clause comprises		
a dummy subject	it	
a negative verb	was not	
a complement	possible to separate all the aggregating proteins from the recovered, motile spermatozoa.	
complete parsing		
Although	conjunction linking the subordinate and main clauses	
the	definite article (specific determiner), referring to a specific student (the one who took the liquefied semen sample)	
student	singular, concrete, common noun, subject of the verbs to take, to layer	
took	main, active, finite, transitive verb (subject the student, object the liquefied semen sample), 3 rd person singular, simple past tense (used for reporting what was done)	
the	definite article (specific determiner), referring to a specific semen sample (the one that is liquefied)	
liquefied	adjective, past participle of the verb to liquefy, describing the state of the specific sample	
semen	mass noun used as an adjunct to describe the nature of the sample	
sample	singular, concrete, common noun, direct object of the verb to take	
and	non-adversative, coordinating conjunction, joining subordinate clauses 1 and 2 of similar importance	
layered	main, active, finite, transitive verb (elided subject the student, object it), 3 rd person singular, simple past tense (used for reporting what was done)	
it	pronoun, used instead of repeating a noun (the liquefied semen sample), direct object of the verb to layer	
gently	adverb, describing how the verb (to layer) was performed	
under	preposition, describing the relationship of the sample to the medium	
the	definite article (specific determiner), referring to a specific medium (the one that supports capacitation)	
capacitating	adjective, present participle of the verb to capacitate, describing the nature of the medium	
medium	singular, concrete, common noun, indirect object of the verb to layer	
in	preposition, describing the relationship of the medium to the tube	
a	indefinite article (general determiner), referring to no particular tube	
tube	singular, concrete, common noun, describing where the direct object of the verb (medium) is placed	
tilted	adjective, past participle of the verb to tilt, describing the position of the tube	
at	preposition, describing the relationship of the tube to the horizontal	
45°	adjective, describing the extent of the tilt	
,	comma, punctuation used to open a non-defining, descriptive clause	
which	relative pronoun, introducing the non-defining clause that describes the consequences of layering semen under medium	
allows	active, finite, auxiliary verb (elided subject the layering, object spermatozoa), 3 rd person singular, simple present tense [used for stating accepted knowledge]	
the	definite article (specific determiner), referring to specific spermatozoa (those layered under the medium)	
spermatozoa	plural, concrete, common noun, subject of the main non-finite verb (to swim up)	
to	infinitive marker of the main, non-finite, phrasal verb (to swim up)	
swim	non-finite verb, infinitive, introduced by the auxiliary verb (to allow), part of the phrasal verb (to swim up)	
up	preposition, describing the direction of the spermatozoa, part of the phrasal verb (to swim up)	
slowly	adverb, describing action of the main verb (to swim up)	
,	comma, punctuation used to close the non-defining clause, descriptive clause	
it	indefinite pronoun, dummy subject of the auxiliary verb in the main clause	
was	finite, lexical, linking verb of incomplete predication (subject it, complement not possible), simple past tense [used for reporting what happened]	
not	adverb, negating the action of the verb (to be)	
possible	adjective, complement of the verb (not to be)	
to	infinitive marker of the main, non-finite, verb (to separate)	
separate	non-finite verb, infinitive, introduced by auxiliary verb (possible to)	
all	quantitative adjective (quantitative determiner), describing the aggregating proteins	
the	definite article (specific determiner), referring to specific proteins (those that are aggregating)	
aggregating	adjective, present participle of to aggregate, describing the proteins	
proteins	plural, concrete, common noun, direct object of the verb (to separate)	
from	preposition, describing the relationship of the proteins to the spermatozoa	
the	definite article (specific determiner), referring to specific spermatozoa (those that are recovered and motile)	
recovered	adjective, past participle of to recover, describing the motile spermatozoa	
,	comma, punctuation used to separate the co-ordinate adjectives (recovered, motile) that modify nouns in the same way	
motile	adjective, describing the recovered spermatozoa	
spermatozoa	plural, concrete, common noun, direct object of the verb (to separate)	
.	full stop, punctuation indicating the end of both the main clause and the complex sentence	

See: [Parts of speech](#), [Sentences](#), [Structure of sentences](#)

Structure of sentences

for the **simple** sentence “The experienced scientist with a white lab. coat expertly dissected the epididymal tissue with a sharp scalpel.”

the relationship between the words can be demonstrated by how they are linked together by **function** phrases

where	adj → adjective	adv → adverb	AP → adjective phrase	AvP → adverb phrase	det → determiner
	end → verb ending	mod → modifier	N → noun	NP → noun phrase	PP → prepositional phrase
	prep → preposition	S → sentence	stem → verb root	VP → verb phrase	V → verb

via a series of rules by **Transgenerative Grammar (TG)**

- (1) $S \rightarrow NP^1 + NP^2$
- (2) $NP^1 \rightarrow NP^3 + PP^1$
- (3) $NP^3 \rightarrow det^1 + AP^1$
- (4) $AP^1 \rightarrow adj^1 + N^1$

- (5) $PP^1 \rightarrow prep^1 + NP^4$
- (6) $NP^4 \rightarrow det^2 + AP^2$
- (7) $AP^2 \rightarrow adj^2 + NP^5$
- (8) $NP^5 \rightarrow mod + N^2$
- (9) $NP^2 \rightarrow VP + PP^2$
- (10) $VP \rightarrow AvP + NP^6$
- (11) $AvP \rightarrow adv + V$
- (12) $NP^6 \rightarrow det^3 + AP^3$
- (13) $AP^3 \rightarrow adj^3 + N^3$
- (14) $PP^2 \rightarrow prep^2 + NP^7$
- (15) $NP^7 \rightarrow det^4 + AP^4$
- (16) $AP^4 \rightarrow adj^4 + N^4$
- (17) $det^{1/2/3/4} \rightarrow the/a/the/a$
- (18) $adj^{1/2/3/4} \rightarrow experienced/white/epididymal/sharp$
- (19) $N^{1/2/3/4} \rightarrow scientist/coat/tissue/scalpel$
- (20) $prep^{1/2} \rightarrow with$
- (21) $mod \rightarrow lab.$
- (22) $adv \rightarrow expertly$
- (23) $V \rightarrow dissected$

each rule is addressed sequentially

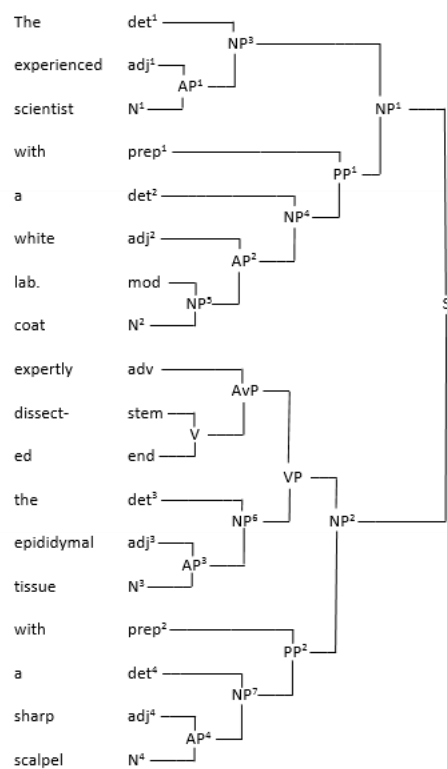
with a **term** in one line being expanded to its **component parts** in the next

S

- 1 **$NP^1 + NP^2$**
- 2 **$NP^3 + PP^1 + NP^2$**
- 3 **$det^1 + AP^1 + PP^1 + NP^2$**
- 4 **$det^1 + adj^1 + N^1 + PP^1 + NP^2$**
- 5 **$det^1 + adj^1 + N^1 + prep^1 + NP^4 + NP^2$**
- 6 **$det^1 + adj^1 + N^1 + prep^1 + det^2 + AP^2 + NP^2$**
- 7 **$det^1 + adj^1 + N^1 + prep^1 + det^2 + adj^2 + NP^5 + NP^2$**
- 8 **$det^1 + adj^1 + N^1 + prep^1 + det^2 + adj^2 + mod + N^2 + NP^2$**
- 9 **$det^1 + adj^1 + N^1 + prep^1 + det^2 + adj^2 + mod + N^2 + VP + PP^2$**
- 10 **$det^1 + adj^1 + N^1 + prep^1 + det^2 + adj^2 + mod + N^2 + AvP + NP^6 + PP^2$**
- 11 **$det^1 + adj^1 + N^1 + prep^1 + det^2 + adj^2 + mod + N^2 + adv + V + NP^6 + PP^2$**
- 12 **$det^1 + adj^1 + N^1 + prep^1 + det^2 + adj^2 + mod + N^2 + adv + V + det^3 + AP^3 + PP^2$**
- 13 **$det^1 + adj^1 + N^1 + prep^1 + det^2 + adj^2 + mod + N^2 + adv + V + det^3 + adj^3 + N^3 + PP^2$**
- 14 **$det^1 + adj^1 + N^1 + prep^1 + det^2 + adj^2 + mod + N^2 + adv + V + det^3 + adj^3 + N^3 + prep^2 + NP^6$**
- 15 **$det^1 + adj^1 + N^1 + prep^1 + det^2 + adj^2 + mod + N^2 + adv + V + det^3 + adj^3 + N^3 + prep^2 + det^4 + AP^4$**
- 16 **$det^1 + adj^1 + N^1 + prep^1 + det^2 + adj^2 + mod + N^2 + adv + V + det^3 + adj^3 + N^3 + prep^2 + det^4 + adj^4 + N^4$**
- 17 **$The + adj^1 + N^1 + prep^1 + a + adj^2 + mod + N^2 + adv + V + the + adj^3 + N^3 + prep^2 + a + adj^4 + N^4$**
- 18 **$The + experienced + N^1 + prep^1 + a + white + mod + N^2 + adv + V + the + epididymal + N^3 + prep^2 + a + sharp + N^4$**
- 19 **$The + experienced + scientist + prep^1 + a + white + mod + coat + adv + V + the + epididymal + tissue + prep^2 + a + sharp + scalpel$**
- 20 **$The + experienced + scientist + with + a + white + mod + coat + adv + V + the + epididymal + tissue + with + a + sharp + scalpel$**
- 21 **$The + experienced + scientist + with + a + white + lab. + coat + adv + V + the + epididymal + tissue + with + a + sharp + scalpel$**
- 22 **$The + experienced + scientist + with + a + white + lab. + coat + expertly + V + the + epididymal + tissue + with + a + sharp + scalpel$**
- 23 **$The + experienced + scientist + with + a + white + lab. + coat + expertly + dissected + the + epididymal + tissue + with + a + sharp + scalpel$**

"The experienced scientist with a white lab. coat expertly dissected the epididymal tissue with a sharp scalpel."

as a **family tree** structure by **Immediate Constituent (IC)** analysis



See: [Parsing of sentences](#), [Parts of speech](#), [Phrases](#)

GLOSSARY of British Scientific English Grammar and Style

[Part 1 Foreword](#)[Part 2 Glossary](#)[Part 3 Grammar and Style](#)[Part 4 Technical Information](#)

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GEOLOGICAL TIME

Geological time

Eons	half a billion years or more		subdivided into			
Eras	several hundred million years		subdivided into			
Periods	tens to one hundred million years		subdivided into			
Epochs	tens of millions of years		subdivided into			
Ages	millions of years					
Geological time scale (GTS: millions of years ago (MYA)/before present (BP))						
Eons	Eras	Periods	Epochs	Ages	MYA/BP	major events
Hadean					4,600–4000	molten earth cools, moon forms
Archean	Eoarchean				4,000–3,600	magnetic field forms
	Paleoarchean				3,600–3,200	first Prokaryotes
	Mesoarchean				3,200–2,800	
	Neoarchean				2,800–2,500	
Proterozoic	Paleoproterozoic	Siderian			2,500–2,300	first Eukaryotes
		Rhyacian			2,300–2,050	
		Orosirian		Ice Age 1	2,050–1,800	sexual reproduction
		Statherian			1,800–1,600	
	Mesoproterozoic	Calymmian			1,600–1,400	first fungi
		Ectasian			1,400–1200	
		Stenian			1,200–1,000	
	Neoproterozoic	Tonian			1,000–720	
		Cryogenian		Ice Age 2	720–635	
		Ediacaran			635–538.8	first plants, first animals
Phanerozoic	Paleozoic	Cambrian			538.8–485.4	first fish
		Ordovician		Ice Age 3	485.4–443.8	
		Silurian		Extinction 1	443.8–419.2	first sharks
		Devonian		Ice Age 4	419.2–358.9	first amphibians
		Carboniferous		Extinction 2	358.9–251.9	first reptiles, spore plants dominant
		Permian		Extinction 3	298.9–251.9	first insects
	Mesozoic	Triassic		Extinction 4	251.9–201.3	dinosaurs, gymnosperms dominant
		Jurassic			201.3–145	first birds
		Cretaceous		Extinction 5	145–66	
	Cenozoic	Paleogene	Eocene		66–41	mammals dominant, first apes
			Oligocene		41–23	first grasses
		Neogene	Miocene		23–5.33	
			Pliocene		5.33–2.6	first hominids
		Quaternary	Pleistocene	Ice Age 5	2.6–0.2	angiosperms dominant
			Holocene	Extinction 6	0.2–0	first humans

See: [Animal species classification](#)

ANIMAL CLASSIFICATION

Animal species classification

MYA (million years ago)			
4.2k	Life		
3.7k	Domain	Archaea/Prokaryota	Prokaryotes (no nucleus)
2.1k	Domain	Eukaryota	Eukaryotes (enclosed nucleus)
610	Kingdom	Animalia	Animals

	Subkingdom	Eumetazoa		
530	Phylum	Chordata	developmental notochord	
505	Subphylum	Vertebrates	with backbones	
395	Superclass	Tetrapods	with four limbs	
340		Amniotes	terrestrial equipped with amnion	
220	Class	Mammalia	suckle young	
160	Subclass	Theria	give birth to live young	
125	Infraclass	Eutheria	placental mammals	
99–80	Grand order	Euarchonta	primates, colugos, tree shrews	
80	Mirorder	Primates	primates, colugos	
66	Order	Primates	primates	
63	Suborder	Strepsirrhini (moist snout)	non-tarsier prosimians	
		Haplorhini (dry-nosed)	tarsiers, monkeys, apes	
40	Infraorder	Tarsiiformes	tarsiers	
		Simiiformes	monkeys, apes	
	Parvorder	Platyrrhini	[New World Monkeys]	
	Family	Callitrichidae	marmosets, tamarins	
		Cebidae	capuchins, squirrel monkeys	
30	Parvorder	Catarrhini (downward-pointing)	nostrils	
	Superfamily	Cercopithecoidea	[extinct line]	
	Family	Cercopithecidae	[Old World monkeys]	rhesus, Java monkeys
22–20	Superfamily	Hominioidea (hominoids)	great, lesser apes	
20–15	Family	Hylobatidae	[lesser apes]	gibbons
		Hominidae (hominids)	[great apes]	
14–12	Subfamily	Ponginae	orangutan	
		Homininae (hominines)		
10–8	Tribe	Gorillini	gorillas	
		Hominini (hominins)		
8–4	Subtribes	Panina	chimpanzees	
		Hominina (homininans)	humans and ancestors	
6–4	Genus	Ardipithecus		
3–2	Genus	Australopithecus	<i>A. Afarensis</i> (Lucy) [E. Africa]	
2.8–1.4	Genus	Homo	<i>H. habilis</i> (handy man), <i>H. rudolfensis</i> (Lake Rudolf man) [S., E. Africa]	
1.8–0.07	Species		<i>H. erectus</i> (upright man), <i>H. ergaster</i> (working man) [E. Asia]	
			<i>H. soloensis</i> (Solo Valley man) [Java, Indonesia]	
0.8–0.3	Species		<i>H. heidelbergensis</i> (Heidelberg man) [Europe]	
0.4–0.028	Species		<i>H. neanderthalensis</i> (Neander Valley man) [Europe]	
			<i>H. denisova</i> (Denisova Cave man) [N. Asia]	
0.19–0.05	Species		<i>H. floresiensis</i> (Flores Island man, 'hobbit') [Flores, Indonesia]	
0.3–	Species		<i>H. sapiens</i> (wise man) [worldwide]	

See: [Apes/monkeys](#), [Genus/species](#), [New/Old World monkeys](#)

Apes/monkeys

<i>apes</i>	have no tails			
	larger than monkeys			
	upright position	bipedal	swing from branches	
	have an appendix			
	great apes	naked face	opposable thumbs	no cheek pouches
<i>monkeys</i>	have tails	(except Barbary macaques)		
	smaller than apes	(except mandrills, baboons)		
	horizontal position	quadrupedal	run along branches	
	have no appendix			

See: [Animal species classification](#), [New/Old World monkeys](#)

New/Old World monkeys

<i>New World (NW)</i>	in South and Central America	smaller than OW	marmosets (<i>Callithrix jacchus</i>)
	tree-living	prehensile (grabbing) tail	sharp fingernails (claws)
	no seat padding	no cheek pouches	not opposable thumbs
	flat nose	wide nasal septum	nostrils face forwards
	seasonal spermatogenesis	no menstruation	colour vision
<i>Old World (OW)</i>	in Asia, Africa	larger than NW	rhesus (<i>Macaca mulatta</i>), Java (<i>Macaca fascicularis</i>)
	land and tree-living	no prehensile tail	flat fingernails
	seat padding	cheek pouches	opposable thumbs
	raised nose	narrow nasal septum	nostrils face downwards
	continuous spermatogenesis	menstruation	black and white vision

See: [Animal species classification](#), [Apes/monkeys](#)

MEASUREMENT

Measurement scales

nominal (classifying, categorical) scale
for classification/membership
categorises responses

YES/NO Agree/Neutral/Disagree Blue/green/red

no quantitative differences between classes cannot be ordered		YES = NO Agree = disagree	Blue = green
permitted operations		=, ≠	
central tendency		mode	
variation		qualitative, proportions, percentages	
permitted statistics		χ^2 test, contingency coefficient	
ordinal (ranking) scale			
for comparisons/levels			
ranks responses		1 st 2 nd 3 rd	
quantitative difference between classes		quality of 1 > 2 > 3	
unequal distances between scale elements		Δ (1 st and 2 nd) \neq Δ (2 nd and 3 rd)	
permitted operations		>, <	
central tendency		median, mode	
variability		range, inter-quartile range, centiles	
permitted statistics		non-parametric, rank correlation	
interval (equal interval) scale			
for differences/affinities/comparison with standard			
categorises and ranks responses		3-point scale (Agree/Neutral/Disagree)	
assumed equal distances between scale elements		relative temperature scales: Celsius scale 0–100°C/ Fahrenheit scale 32–212°F	
actual equal distances between scale elements		Δ (agree–neutral) = Δ (neutral–disagree)	
have arbitrary zero		Δ (20–10°C) = Δ (90–80°C) = 10°C	
		a person with IQ 60 is not twice as intelligent as one with IQ 30	
		40°C is not twice as hot as 20°C	
permitted operations		+, –	
central tendency		mode, median, arithmetic mean	
variability		range, standard deviation	
permitted statistics		t-test, F-test, regression	
ratio scale			
for magnitudes/amounts			
ratio of a continuous quantity and a unit		most scientific measurements: length, mass, speed	
equal distances between scale elements		absolute temperature scales: Kelvin scale Rankine scale	
have absolute zero		Δ ([–150K] – [–120K]) = Δ (120K – 90K) = 30K	
		5 kg = $\frac{1}{2}$ 10 kg	
		120K is twice as hot as 60K	
permitted operations		x, ÷, +, –	
central tendency		mode, median, arithmetic, geometric, harmonic mean	
variability		CV, studentised range	
permitted statistics		all tests	

See: [Central limit theory/tendency](#), [Linear/semi-logarithmic/logarithmic graphical plots](#), [Linear/non-linear measurement scales](#), [Temperature scales](#)

Linear/non-linear measurement scales

linear	the value between two points on the scale does not differ over the range	
	linear progression	each number is a fixed value (n) added to the previous one
	for n = 0.5	1–1.5–2–2.5...
	for n = 1	1–2–3–4...
non-linear	the value between two points on the scale varies over the range	
	geometric progression	each number is a multiple (n) of the previous one
	for n = 0.5	1–0.5–0.25–0.125...
	for n = 2	1–2–4–8...
	sequence numbers	
	each number is the sum of the previous two	
	starting with 0 (Fibonacci numbers) 0–1–1–2–3–5–8...	
	starting with 2 (Lucas numbers) 2–1–3–4–7–11...	

See: [Linear/semi-logarithmic/logarithmic graphical plots](#), [Measurement scales](#)

Temperature scales

types of scale	
absolute (thermodynamic) temperature scales	
Kelvin scale	unit kelvin
Rankine scale	unit degree Rankine
relative temperature scales	
Celsius scale	unit degree Celsius
Fahrenheit scale	unit degree Fahrenheit
comparisons of scales	
absolute	a difference of 1°C = 1 K
	conversion
	a difference of 1°F = 1°R 1°C = 1.8°F
	K to °R (K x 1.8) = °R
	°R to K (°R/1.8) = K
relative	m.pt. ice to b.pt. water = a difference of 100°C = a difference of 180°F 1°C = 1.8°F
	conversion
	°C to °F (°C x 1.8) + 32 = °F OR [(°C + 40) x 1.8] – 40 = °F
	°F to °C (°F – 32) ÷ 1.8 = °C OR [(°F + 40) ÷ 1.8] – 40 = °C
	memorable values
	the same numerical value
	inverted numbers
	–40°C = –40°F
	16°C = 61°F 28°C = 82°F

absolute and relative	a difference of 1°C = 1 K				
	conversion	K to °C	0 K = -273.15°C	0°C = 273.15 K	100°C = 373.15 K
	a difference of 1°F = 1°R				
	conversion	°R to °F	0 R = -459.67°F	32°F = 491.67°R	212°F = 671.64°R

NOTE Liquid gases have boiling points of -269°C (helium), -196°C (nitrogen), -183°C (oxygen)

See: [Cold/heat/hot/temperature](#), [Measurement scales](#), [Minus sign](#)

Microscopy

an important tool for examination of magnified

dried smears of stained cells	for assessing morphology	
wet preparations of living cells	for assessing motility	kinematics
	chamber depth	too low restricts sperm movement
		too high gives out-of-focus images
		optimum for assessing sperm motility ~20 µm
immobilised cells	for counting and (with dilution) assessing concentration	
	chamber depth	deep enough to hold sufficient cells
		depends on cell concentration
		optimum for assessing sperm concentration ~100 µm

total magnification

of the **image** received on the retina/camera sensor

derived by multiplying the magnification of the **objective** and **ocular lenses**

the magnification	with objective	and ocular	x10	x12
	x20		= 200x	= 240x
	x25		= 250x	= 300x
	x40		= 400x	= 480x

calculating **depths** of wet preparations (cell suspensions)

the approximate **depth** of a wet preparation (**D, µm**) is obtained by

dividing the **volume** of the sample (**V, µl = mm³**) by the **area** (**L mm x W mm**) over which it is spread (**A, mm²**): **D = V/A**

a sample covered by a coverslip provides a chamber
of volume of dimensions / area of depth

(µl)	(mm x mm) / (mm ²)	(µm)
6.5	18 × 18	324
11	21 × 26	546
10	22 × 22	484
40	24 × 50	1200
		33.3

calculating **volumes** observed per high power microscopic field (HPF)

the **volume (V)** of sample observed in each HPF depends on

the **area (A)** of the field (**πr²**) [where **π** is approximately **3.142** and **r** is the **radius** of the microscopic field]

the **depth (D)** of the chamber: **V = A x D**

the **diameter** of the microscopic field can be

measured with a stage micrometer

estimated by dividing the **ocular lens aperture diameter** by the **objective lens magnification**

for estimating the **semen dilution** needed for an **accurate sperm/leukocyte count**

in a **20.7 µm-deep** chamber **of undiluted semen**

with a **x10 ocular** of **aperture 20 mm** and **x40 objective**

the HPF has a **diameter 20 mm/40 (500 µm)**

$$r = 250 \mu\text{m} \quad r^2 = 62\,500 \mu\text{m}^2 \quad A = \pi r^2 = 196\,375 \mu\text{m}^2$$

$$\text{the volume viewed per HPF} \quad V = A \times 20.7 = 4\,064\,962 \mu\text{m}^3 \quad (\sim 4 \text{ nl})$$

with a **x10 ocular** of **aperture 20 mm** and **x20 objective**

the HPF has a **diameter 20 mm/20 (1000 µm)**

$$r = 500 \mu\text{m} \quad r^2 = 250\,000 \mu\text{m}^2 \quad A = \pi r^2 = 785\,500 \mu\text{m}^2$$

$$\text{the volume viewed per HPF} \quad V = A \times 20.7 = 16\,259\,850 \mu\text{m}^3 \quad (\sim 16 \text{ nl})$$

for assessing **spermatozoa in cervical mucus**

in a **100 µm-deep** chamber **of cervical mucus**

with a **x10 ocular** of **aperture 20 mm** and **x40 objective**

the HPF has a **diameter 20 mm/40 (500 µm)**

$$r = 250 \mu\text{m} \quad r^2 = 62\,500 \mu\text{m}^2 \quad A = \pi r^2 = 196\,375 \mu\text{m}^2$$

$$\text{the volume viewed per HPF} \quad V = A \times 100 = 19\,637\,500 \mu\text{m}^3 \quad (\sim 20 \text{ nl})$$

for assessing **low sperm concentration**

in a **100 µm-deep** chamber of **diluted fixed semen**

with a **x10 ocular** of **aperture 25 mm** and **x25 objective**

the HPF has a **diameter 25 mm/25 (1000 µm)**

$$r = 500 \mu\text{m} \quad r^2 = 250\,000 \mu\text{m}^2 \quad A = \pi r^2 = 785\,500 \mu\text{m}^2$$

$$\text{the volume viewed per HPF} \quad V = A \times 100 = 78\,550\,000 \mu\text{m}^3 \quad (\sim 80 \text{ nl})$$

estimating required semen **dilution**

needed for **precise** cell counts with an **acceptable** counting error

with **100 cells** per **4 nl HPF** in the **undiluted** sample (**≅ 25/nl**)

≈ **2500 cells** per **100 nl grid** of the **Neubauer chamber**

diluting the sample **1:5** would reduce the cell number to **500 per grid**

which is **>400** with a low sampling error (**<5%**)

with **10 cells** per **4 nl HPF** in the **undiluted** sample (**≅ 2.5/nl**)

≈ **250 cells** per **100 nl grid** of the **Neubauer chamber**

diluting the sample **1:2** would reduce the cell number to **125 per grid** or **375 in three grids**

which is **~400** with a low sampling error (**<5%**)

with **2 cells per 4 nl HPF** in the **undiluted** sample ($\equiv 0.5/\text{nl}$)
 ≈ 900 cells per **18 grids** of the **Neubauer chamber**
 diluting the sample **1:2** would reduce the cell number to **450 per chamber**
 which is **>400** with a low sampling error ($<5\%$)
 with **1 cell per 4 nl HPF** in the **undiluted** sample ($\equiv 0.25/\text{nl}$)
 ≈ 6250 cells per **25 μl Leja chamber**
 diluting the sample **1:15** would reduce the cell number to **417 per chamber**
 which is **>400** with a low sampling error ($<5\%$)

volumes of commercial counting chambers

low volume chambers (e.g. Makler)

one chamber **10 μm deep** with **one** 1 mm \times 1 mm grid
 the **grid** volume is 1 mm \times 1 mm \times 0.01 mm = 0.01 mm³ (**10 nl**)
 if the **true sperm/leukocyte concentration** is **1 $\times 10^6$ per ml (1000/ μl)** semen \equiv **1/nl**
 for **undiluted** semen (**1/nl**)
 there would be **10 cells** in the entire **10 nl** grid.
 the **sampling error** associated with counting **10 cells** = $100 \times \sqrt{10}/10$ (**32%**)
 the **95% confidence limits (CL)** = $1.96 \times \sqrt{10} = 6.2$
 the **95% confidence interval (CI)** = 10 ± 6.2
 the **true count** could be from 4 (10 – 6) to 16 (10 + 6)
 the **estimate of the neat concentration** would be from **400 000 to 1 600 000/ml**
 i.e. **unacceptably imprecise** (**0.4–1.6 $\times 10^6/\text{ml}$**)

deep chambers (e.g. Neubauer improved)

two chambers **100 μm deep** each with **nine** 1 mm \times 1 mm grids
 each **grid** volume is 1 mm \times 1 mm \times 0.1 mm = 0.1 mm³ (**100 nl**)
 if the **true sperm/leukocyte concentration** is **1 $\times 10^6$ per ml (1000/ μl)** semen \equiv **1/nl**
 for **1:1** diluted semen (**0.5/nl**)
 there would be **200 cells** in **four grids (400 nl)**
 the **sampling error** associated with counting **200 cells** = $100 \times \sqrt{200}/200$ (**7%**)
 the **95% confidence limits (CL)** = $1.96 \times \sqrt{200} = 27$
 the **95% confidence interval (CI)** = 200 ± 27
 the **true count** could be from 173 (200 – 27) to 227 (200 + 27)
 the **estimate of the neat concentration** would be from **865 000 to 1 135 000/ml**
 i.e. **acceptably precise** (**0.9–1.1 $\times 10^6/\text{ml}$**)

large volume chambers (e.g. Leja)

one chamber **100 μm deep** **no** grids marked
 the **area** of the **number of high power fields (HPF)** viewed gives the volume assessed
 if the **true sperm/leukocyte concentration** is **1 $\times 10^6$ per ml (1000/ μl)** semen \equiv **1/nl**
 for **1:4** diluted semen (**0.2/nl = 200/ μl**)
 there would be **500 cells** in **thirty-one 80-nl HPF (2.5 μl)**
 the **sampling error** associated with counting **500 cells** = $100 \times \sqrt{500}/500$ (**4.5%**)
 the **95% confidence limits (CL)** = $1.96 \times \sqrt{500} = 44$
 the **95% confidence interval (CI)** = 500 ± 44
 the **true count** could be from 456 (500 – 44) to 544 (500 + 44)
 the **estimate of the neat concentration** would be from **912 000 to 1 088 000/ml**
 i.e. **acceptably precise** (**0.9–1.1 $\times 10^6/\text{ml}$**)

See: [Depth/height/length/width](#), [Fraction/percentage/proportion/ratio](#), [Magnification/scale bar](#)

PRESSURE

Pressure measurement

the quantification of an applied force on a surface

pressure measures units of force per unit area of surface

units	Pascal (Pa [SI unit])	1 Pa = 1 Newton per square metre, 1 N·m ⁻²				
	1 Pa = 10 ⁻⁵ bar	1.02·10 ⁻⁵ at	9.9·10 ⁻⁶ atm	7.5·10 ⁻³ Torr	0.001 psi	0.0075 mm Hg
Bar (bar [non-SI unit])						
	1 bar = 100 kPa	1.02 at	0.99 atm	750.1 Torr	14.5 psi	750.1 mm Hg
Technical atmosphere (at [non-SI unit])						
	1 at = 98.1 kPa	0.98 bar	0.97 atm	735.6 Torr	14.2 psi	735.6 mm Hg
Standard atmosphere (atm [non-SI unit])						
	1 atm = 101.3 kPa	1.01 bar	1.03 at	760 Torr	14.7 psi	760.0 mm Hg
Torr (Torr [non-SI unit])						
	1 Torr = 0.133 kPa	0.001 bar	0.001 at	0.001 atm	0.02 psi	1 mm Hg
Pounds (force) per square inch (lbf/in ² , psi [non-SI unit])						
	1 psi = 6.9 kPa	0.068947 bar	0.07 at	0.068 atm	51.7 Torr	51.7 mm Hg
pressure is commonly measured by its ability to displace a column of liquid in a manometer						
mercury (mm Hg [non-SI unit])	high density allows a shorter column/smaller device, but toxic					
water (mm H ₂ O [non-SI unit])	non-toxic and readily available, but a longer column/larger device					

See: [Atmospheric pressure](#), [Blood pressure](#), [International system of units](#), [Vapour pressure](#)

Atmospheric pressure

the **pressure within** the atmosphere of Earth [barometric pressure]
 the **standard atmosphere** (symbol: atm) is a unit of pressure
equal to the mean sea-level **atmospheric pressure** on Earth (1 atm)
defined as 101,325 Pa (1,013.3 hPa, 1,013.3 mbar)

equivalent to 760 mm Hg, 29.9 inches Hg, 14.7 psi

approximated by the **hydrostatic pressure**

the **weight** of air above the measurement point

with **increasing elevation** there is **decreasing atmospheric mass** and **decreasing atmospheric pressure**

a column of air with a cross-sectional **area of 1 cm²**

measured from a **height** of 17 km has a **mass** of about 1.03 kg and exerts a **force** of about 10.1 newtons (N)

resulting in a **pressure** of 101 kN/m² (**101 kPa, 760 mm Hg**)

a column of air with a cross-sectional **area of 1 in²**

measured from a **height** of 17 km has a **mass** of 14.7 lbf

resulting in a **pressure** of **14.7 psi**

See: [Abbreviations of multipliers and units](#), [Pressure measurement](#), [Vapour pressure](#)

Vapour pressure

defined as the pressure exerted by a **vapour**

in **thermodynamic equilibrium** with its condensed phases (**solid** or **liquid**) [equilibrium vapour pressure]

at a given temperature in a closed system

is an **indication of** a liquid's evaporation rate

relates to the tendency of particles to escape from the liquid or solid

a substance with a **high** vapour pressure at normal temperatures is **volatile**

a substance with a **low** vapour pressure at normal temperatures is **non-volatile**

with **increasing temperature** of a liquid there is **increasing kinetic energy** of its molecules,

increasing movement from liquid to vapour and **increasing vapour pressure**

the boiling point of a liquid is the temperature at which the **vapour pressure equals ambient atmospheric pressure**

with **increasing temperature**

the **vapour pressure overcomes atmospheric**

the liquid forms **vapour bubbles inside** the bulk of the liquid

partial pressure is what a single component in a mixture contributes to the total pressure

air at sea level, and **saturated** with water vapour at **20°C**

has **partial pressures** of about 2.3 kPa of **water**, 78 kPa of **nitrogen**, 21 kPa of **oxygen** and 0.9 kPa of **argon**, totalling **102.2 kPa**

See: [Abbreviations of multipliers and units](#), [Atmospheric pressure](#), [Pressure measurement](#)

Blood pressure

the pressure of **circulating blood** against the **walls of blood vessels**

results from the heart pumping blood through the **circulatory system**

refers to the pressure in the **large arteries**

measured by sphygmomanometry

a cuff is **inflated** until the brachial artery is **occluded** (no sounds are heard)

cuff pressure is **released** until a **pounding sound** is heard (blood starts to flow)

recorded as the **systolic blood pressure** (**maximum pressure during one heartbeat**)

cuff pressure is **further** released until **no sound** is heard (minimum pressure)

recorded as the **diastolic blood pressure** (**minimum pressure between two heartbeats**)

measured in millimetres of mercury (mm Hg) above the surrounding atmospheric pressure

adult human **systolic pressure** (optimal < 120 mm Hg)

diastolic pressure (optimal < 80 mm Hg)

expressed as a ratio of systolic to diastolic pressure (120/80)

See: [Pressure measurement](#)

UNITS

International system of units

[IS units, Système Internationale (SI) units]

base units

quantity	name	(symbol)
amount of substance	mole	(mol)
electric current	ampere	(A)
length	metre	(m)
luminous intensity	candela	(cd)
mass	kilogram	(kg)
thermodynamic temperature	kelvin	(K)
time	second	(s)

derived values

quantity	name	(symbol)	units	SI base units
absorbed dose (of ionising radiation)	gray	(Gy)	J/kg	m ² ·s ⁻²
angle	radian	(rad)	m/m	1
area	square metre		m ²	m ²
catalytic activity	katal	(kat)	mol/s	s ⁻¹ ·mol
density	kilogram per cubic metre		kg/m ³	m ⁻³ ·kg
electric charge, quantity of electricity	coulomb	(C)	s·A, F·V	s·A
electrical capacitance	farad	(F)	C/V, s/Ω	kg ⁻¹ ·m ⁻² ·s ⁴ ·A ²
electrical conductance	siemens	(S)	1/Ω, A/V	kg ⁻¹ ·m ⁻² ·s ³ ·A ²
electrical inductance	henry	(H)	V·s/A, Ω·s, Wb/A	kg·m ² ·s ⁻² ·A ⁻²
electrical resistance, impedance, reactance	ohm	(Ω)	1/S, V/A	kg·m ² ·s ⁻³ ·A ⁻²
energy, work, heat	joule	(J)	m·N, C·V, W·s	kg·m ² ·s ⁻²

equivalent dose (of ionising radiation)	sievert (Sv)	J/kg	$\text{m}^2\cdot\text{s}^{-2}$
force, weight	newton (N)	$\text{kg}\cdot\text{m}/\text{s}^2$	$\text{kg}\cdot\text{m}\cdot\text{s}^{-2}$
frequency	hertz (Hz)	1/s	s^{-1}
luminance	lux (lx)	lm/m^2	$\text{cd}\cdot\text{m}^{-2}$
luminous flux	lumen (lm)	$\text{cd}\cdot\text{sr}$	cd
magnetic flux	weber (Wb)	J/A, $\text{T}\cdot\text{m}^2$, V·s	$\text{kg}\cdot\text{m}^2\cdot\text{s}^{-2}\cdot\text{A}^{-1}$
magnetic induction, magnetic flux density	tesla (T)	$\text{V}\cdot\text{s}/\text{m}^2$, Wb/m^2 , $\text{N}/(\text{A}\cdot\text{m})$	$\text{kg}\cdot\text{s}^{-2}\cdot\text{A}^{-1}$
molality	mole per kilogram	mol/kg	$\text{kg}^{-1}\cdot\text{mol}$
molar mass	kilogram per mole	kg/mol	$\text{kg}\cdot\text{mol}^{-1}$
power, radiant flux	watt (W)	J/s, V·A	$\text{kg}\cdot\text{m}^2\cdot\text{s}^{-3}$
pressure, stress	pascal (Pa)	N/m^2	$\text{kg}\cdot\text{m}^{-1}\cdot\text{s}^{-2}$
radioactivity (decays per unit time)	becquerel (Bq)	1/s	s^{-1}
solid angle	steradian (sr)	m^2/m^2	1
speed, velocity	metre per second	m/s	$\text{m}\cdot\text{s}^{-1}$
temperature relative to 274·15K	degree Celsius ($^{\circ}\text{C}$)	K	K
voltage, electrical potential difference, electromotive force	volt (V)	W/A, J/C	$\text{kg}\cdot\text{m}^2\cdot\text{s}^{-3}\cdot\text{A}^{-1}$
volume	cubic metre	m^3	m^3

See: [Common/proper nouns](#), [Measurement scales](#), [Temperature scales](#)

Units

their **position** and **spacing** of relative to the numerical value vary to the **right** of the value

separated by a space

volumes

distances

times

rates

concentrations

10 μl	20 ml	5 l
3 μm	5 mm	6 km
4 sec	3 min	5 h
100 $\mu\text{m}/\text{sec}$		60 km/h
60 $10^6/\text{ml}$		

not separated by a space

angular measurements (degrees, minutes, seconds of arc)

gravity (relative centrifugal force, RCF)

percentages

temperatures

180°	30'	40''
16,000g		
50%		
37°C	212°F	0°R

to the **left** of the value

separated by a space

with specific currencies

not separated by a space

general currencies

US\$ 500	HK\$ 400	CA\$ 200	A\$ 100
\$500	€400	£200	¥100

repetition of units

most units are not repeated with repeated values

with dispersion

in text

in ranges

19.5 ± 3.1%

the **percentage** was 8

the **pH** was 8

the **voltage** was 16

between 3 and 4 g

an angle of 70° or 90°

a range of 30–60%

a yield of 65–75%

a temperature of 32–37°C

not 19.5% ± 3.1%

not the **percentage** was 8%

not the **pH** was pH 8

not the **voltage** was 16 V

not between 3 g and 4 g

not an angle of 70° or 90°

not a range of 30%–60%

not a yield of 65%–75%

not a temperature of 32°C–37°C

some units are repeated with the repeated values

units of **dimension**

for **ranges**

a cover slip 18 mm x 18 mm

between 30x10⁶ and 60x10⁶

not between 30 and 60x10⁶

not a cover slip 18 x 18 mm

a **range** of 30 000 000 [60x10⁶ – 30x10⁶]

a **range** of 59 999 070 [60x10⁶ – 30]

pronunciation of some units depends on their role in the sentence

singular when used as **noun adjunct**

but

plural when used as a **noun**

a \$30,000 (**dollar**) CASA machine

is

a CASA machine that costs \$30,000 (**dollars**)

a 2 h (**hour**) lunch break

is

a lunch break that lasts 2 h (**hours**)

a 500 ml (**millilitre**) beaker

is

a beaker that holds 500 ml (**millilitres**)

a 20 min (**minute**) incubation

is

an incubation that lasts 20 min (**minutes**)

the 1.7 m (**metre**) student

is

a student who is 1.7 m (**metres**) tall

a three wk (**week**) injection scheme

is

an injection scheme that lasts three wk (**weeks**)

a **mouse** epididymal study

is

a study of the epididymis of **mice**

a 40-year-old patient

is

a patient who is 40 **years** old

NOTE the **use of spaces** in denominate numbers is dictated by journal style

See: [Abbreviations of multipliers and units](#), [Counting/denominate/measurement numbers](#), [Multipliers/units](#)

Multipliers/units

multipliers

used to avoid **unnecessary significant digits** in Text, Tables and Figures

in **text** they **follow** the value 60x10⁶/ml **not** the unit 60/ml(x10⁶)

they **head Table columns** and **label Figure axes**

a list of **4, 5 and 6 million** may be written as **4, 5, 6**

under the column heading/figure axis label **million**

as **this implies** that the **numbers** written (4, 5, 6)
 have a **multiplier of million**
i.e. they represent **4 million 5 million 6 million**
 a list of **4x10⁶, 5x10⁶ and 6x10⁶** may be written as **4, 5, 6**
 under the column heading/figure axis label **10⁶**
 as **this implies** that the **numbers** written (4, 5, 6)
 have a **multiplier of 10⁶**
i.e. they represent **4x10⁶ 5x10⁶ 6x10⁶**
 under the column heading/figure axis label **x10⁶**
 as **this implies** that the **numbers** written (4, 5, 6)
 are 1,000,000 times **smaller (10⁻⁶)** than the **values** they represent
 and so have a **multiplier of 10⁶**
i.e. they represent **4x10⁶ 5x10⁶ 6x10⁶**
 a list of **4x10⁶, 5x10⁶ and 6x10⁶** may be written as **4, 5, 6**
 under the column heading/figure axis label **x10⁶**
 as **this implies** that the **numbers** written (4, 5, 6)
 are 1,000,000 times **larger (10⁶)** than the **values** they represent
 and so have a **multiplier of 10⁻⁶**
i.e. they represent **4x10⁻⁶ 5x10⁻⁶ 6x10⁻⁶**

units

used to avoid **unnecessary repetition of words** in Text, Tables and Figures

in **text** they **follow** the value **60x10⁶/ml**

they **head Table columns** and **label Figure axes**

a list of **4, 5 and 6 ml** may be written as **4, 5, 6**

under the column heading/figure axis label **ml**

as **this implies** that the **numbers** written (4, 5, 6)

have a **unit of ml**

i.e. they represent **4 ml 5 ml 6 ml**

a list of **40, 50 and 60 million/ml** may be written as **40, 50, 60**

under the column heading/figure axis label **million/ml**

as **this implies** that the **numbers** written (40, 50, 60)

have a **unit of million/ml**

i.e. they represent **40 million/ml 50 million/ml 60 million/ml**

under the column heading/figure axis label **10⁶/ml**

as **this implies** that the **numbers** written (40, 50, 60)

have a **unit of 10⁶/ml**

i.e. they represent **40x10⁶/ml 50x10⁶/ml 60x10⁶/ml**

under the column heading/figure axis label **x10⁶/ml**

as **this implies** that the **numbers** written (40, 50, 60)

are 1,000,000 times **smaller (10⁻⁶)** than the **values** they represent

and so have a **multiplier of 10⁶**

or a **unit of 10⁶/ml**

i.e. they represent **40x10⁶/ml 50x10⁶/ml 60x10⁶/ml**

a list of **400, 500 and 600 ml** may be written as **4, 5, 6**

under the column heading/figure axis label **x10⁻²/ml**

as **this implies** that the **numbers** written (4, 5, 6)

are 100 times **smaller (10⁻²)** than the **values** they represent

and so have a **multiplier of 10²**

or a **unit of 10²/ml**

i.e. they represent **4x10²/ml 5x10²/ml 6x10²/ml**

(400 ml) (500 ml) (600 ml)

a list of **0.004, 0.005 and 0.006 ml** may be written as **4, 5, 6**

under the column heading/figure axis label **x10⁻³/ml**

as **this implies** that the **numbers** written (4, 5, 6)

are 1,000 times **larger (10³)** than the **values** they represent

and so have a **multiplier of 10⁻³**

or a **unit of 10⁻³ ml**

i.e. they represent **4x10⁻³ ml 5x10⁻³ ml 6x10⁻³ ml**

(0.004 ml) (0.005 ml) (0.006 ml)

(4 µl) (5 µl) (6 µl)

See: [Concentration \(N x10⁶/x10⁻⁶ per ml\)](#), [Units](#)

Abbreviations of multipliers and units

single lower-case letters

a, atto	b, bit/billion	c, centi	d, day/dec	f, femto	g, gram/gravity	h, hecto/hour
k, kilo	m, metre/milli	n, nano	p, pico	y, yocto	z, zepto	

single upper-case letters

B, byte	C, Celsius/coulomb	E, exa	F, Fahrenheit	G, giga	K, Kilo/kelvin	M, mega/molar	N, newton
P, peta	S, siemens	T, tera/tesla/temperature	V, volt	W, watt	Y, yotta	Z, zetta	

single lower- or upper-case letter

l/L, litre

multiple lower-case letters

cfu, colony-forming units	da, deca	fps, frames per second	ha, hectare	lbf, pounds force	min, minute
mo, month	mol, mole	ppm, parts per million	ppt, parts per thousand/precipitate	rpm, revolutions per minute	
sec, second	wk, week	yr, year			

multiple upper-case letters

UV, ultraviolet FW, formula weight MW, molecular weight

RCF, relative centrifugal force

multiple lower- and upper-case letters

Bq, becquerel Da, daltons

Hz, hertz Pa, pascal

Sv, sievert

See: [International system of units](#), [Kilo/kilo](#), [Prefixes for binary multipliers](#), [Prefixes for decimal multipliers](#)

NUMBERS

Digit/figure/number/numeral

digit any of the written Arabic/Roman numerals 0–9/I–X, figure

figure any of the written Arabic/Roman numerals 0–9/ I–X, digit
a diagram or illustrative drawing

number an abstract **concept**, the values themselves
may consist of **figures/digits**
numerals 0–9

alphanumeric (nominal) numbers

numeral a conventional **symbol** that expresses a digit, figure, number

arithmetic numerals	0	1	2	3	4	5	6	7	8	9									
geometric numerals	1	10	100	1000	10000														
Arabic numerals	one case only	0	1	2	3	4	5	6	7	8	9								
			10	20	30	40	50	60	70	80	90	100	500	1000					
Roman numerals	upper case		I	II	III	IIII/IV	V	VI	VII	VIII	IX								
			X	XX	XXX	XL	L	LX	LXX	LXXX	XC	C	D	M					
	lower case		i	ii	iii	iiii/iv	v	vi	vii	viii	ix								
			x	xx	xxx	xl	l	lx	lxx	lxxx	xc	c	d	m					

Roman numerals are read from **left to right** as units

with **larger** units **before** **smaller** units

when **smaller** units come

after larger they are **added**

MD = 1500 [1000 + 500] DC = 600 [500 + 100] CL = 150 [100 + 50] LX = 60 [50 + 10]

XII = 12 [10 + 2] VIII = 8 [5 + 3]

before larger they are **subtracted**

CM = 900 [1000 – 100] CD = 400 [500 – 100] XL = 40 [50 – 10]

IX = 9 [10 – 1] IV = 4 [5 – 1]

MDCCXXXIV M + D + CC + XXX + IV [1000 + 500 + (2x100) + (3x10) + (5 – 1) = 1000 + 500 + 200 + 30 + 4] is 1734

MCMXCVIII M + CM + XC + VIII [1000 + (1000 – 100) + (100 – 10) + (5 + 3) = 1000 + 900 + 90 + 8] is 1998

See: [Decimal numerals/places/points](#), [Lower/upper case](#), [Numbers](#), [Numeric/numerical](#)

A **four-digit** number has four digits

A **three-figure** number has three figures

The results are presented in **Figure 1**

one, two (one more than one), **three** (one more than two)

The **number** 237 comprises the **figures/digits** 2-3-7

The **year** 1998 comprises the Arabic **numerals** 1-9-9-8

The **year** 1998 comprises the Roman numerals M-C-X-V-III

Grant number **CO/247-11/1** includes **letters**

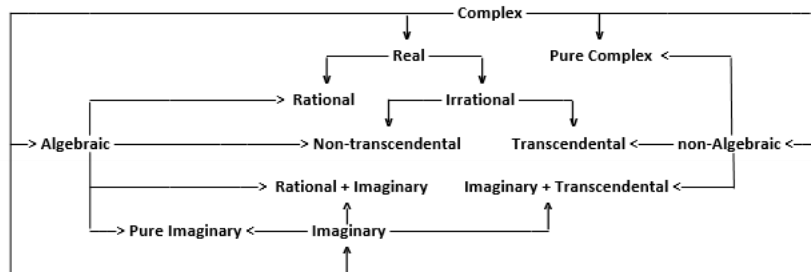
Numbers

mathematical objects used for

counting	(objects)
measuring	(length, mass)
labelling	(telephone numbers)
ordering	(serial numbers)
coding	(ISBNs)

organised in a numeral system

represents any **number** by a combination of ten fundamental **numerical symbols**: digits/figures
includes **complex** **imaginary** **irrational** **negative** **rational** **real** **transcendental** numbers and **zero**
represented in language with **number words** (five) and **numerals** (5)
calculations are done with **arithmetical operations**



See: [Algebraic/transcendental numbers](#), [Cardinal/ordinal numbers](#), [Complex numbers](#), [Composite/perfect/prime numbers](#), [Counting/denominator/measurement numbers](#), [Digit/figure/number/numeral](#), [Even/odd numbers](#), [Decimal numerals/places/points](#), [Imaginary/real numbers](#), [Integers](#), [Irrational/rational numbers](#), [Mathematical comparators/operators](#), [Zero](#), [Zero/zeros/zeros](#)

Complex numbers

pure complex numbers (non-Algebraic, non-Real numbers)
Transcendental plus **Imaginary** numbers or **Real** numbers $e \cdot i$ $\pi \cdot i$ $\pi + 3 \cdot i$ $e - \pi \cdot i$
 where e is Euler's number $(1 + 1/n)^n$
 π is Archimedes' constant (the ratio of the circle circumference to its diameter)

all **Imaginary** numbers

all **Real** numbers

all **Algebraic** numbers

See: [Algebraic/transcendental numbers](#), [Imaginary/real numbers](#), [Irrational/rational numbers](#), [Numbers](#)

Composite/perfect/prime numbers

composite numbers	integers >1 that	are the product of two smaller positive integers the first few composite numbers are	4 (2x2)	6 (2x3)	8 (2x4)	9 (3x3)	10 (2x5)	12 (3x4)
perfect numbers	integers >1 that	are equal to the sum of its positive divisors (excluding the number itself) 6 has three positive divisors (excluding 6): 1 2 3 the sum of the divisors $(1 + 2 + 3) = 6$ half the sum of all of its positive divisors (including the number itself) 6 has four positive divisors (including 6): 1 2 3 6 half the sum of the divisors $(1 + 2 + 3 + 6)/2 = 12/2 = 6$ the first few perfect numbers are	6	28	496	8128		
prime numbers	integers >1 that	can only be divided by themselves and 1 the first few prime numbers are	2	3	5	7	11	

NOTE 1 is neither composite nor prime

See: [Integers](#), [Irrational/rational numbers](#), [Numbers](#)

Counting/denominator/measurement numbers

counting numbers	indivisible (real, rational) numbers with no fractional/decimal component for counting objects in the real world natural numbers positive integers without zero (term used when the notion of counting less than one is considered nonsensical) whole/cardinal numbers positive integers with zero (term used when the notion of having less than none is considered nonsensical) for ranking objects ordinal numbers used for quantification and calculation in grammar used with fewer (not less) more	1 2 3 4 0 1 2 3 1 st 2 nd 3 rd 4 th
denominator numbers	divisible (real, rational) numbers with a fractional/decimal component measurement numbers with units with a space between the number and	a unit a specific currency 5 μ m 10 ml 20 min 60 10 ⁶ /ml US\$ 500 HK\$ 5000

There were **fewer than 500 students** present
We now have **more than ten microscopes**

	with no space between the number and	a unit	16,000g	50%	37°C	212°F				
		no specific currency	\$500	€400	£200	¥100				
	used for quantification and calculation									
	in grammar used with less (<i>not</i> fewer)					There are less <i>than</i> 500 metres to the institute				
	more					We have more <i>than</i> \$50 to spend				
<i>measurement numbers</i>	divisible (real, rational) numbers with a fractional/decimal component									
	with units (denominate numbers)									
	percentages		25%	33%	50%	66%	75%	125%	250%	375%
	without units									
	fractions		$\frac{1}{4}$	$\frac{1}{5}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{5}$	$1\frac{1}{4}$	$2\frac{1}{2}$	$3\frac{3}{4}$
	proportions (decimal values)		0.25	0.33	0.5	0.66	0.75	1.25	2.5	3.75
	ratios		1:3	1:2	1:1	2:1	3:1	5:4	5:2	15:4
	used for quantification and calculation									
	in grammar used with less (<i>not</i> fewer)									The Impact Factor is less <i>than</i> 2.98 now
	more									The difference was just more <i>than</i> 50

See: [Fewer](#), [Integers](#), [Numbers](#), [Fraction/percentage/proportion/ratio](#), [Units](#), [Zero](#)

Imaginary/real numbers

<i>imaginary numbers</i>	when squared give a negative number				
	square root of negative numbers	$\sqrt{-1}$		$\sqrt{-2}$	
	with a specific imaginary unit i such that	$i^2 = -1$			
	written as a real number (b) and (i) such that	$(bi)^2 = -b^2$			
	include algebraic numbers	i			
	imaginary alone	$1 + i$		$9 + 5 \cdot i$	
	with real numbers				
	non-algebraic numbers	$e \cdot i$		$\pi \cdot i$	
	with transcendental				
	with transcendental and real	$\pi + 3 \cdot i$		$e - \pi \cdot i$	
<i>real numbers</i>	when squared give a positive number	$+2 \times +2 = +4$		$-2 \times -2 = +4$	
	square root of positive numbers	$\sqrt{4} = +2, -2$		$\sqrt{16} = +4, -4$	
	include algebraic numbers	5	-9	0	$2/3$ $97/32$
	all rational	$\sqrt{2}$	$-\sqrt{5}$	$\sqrt[3]{26}$	$(1+\sqrt{5})/2$
	non-transcendental, irrational				
	non-algebraic numbers	e	π		
	transcendental, irrational				

See: [Algebraic/transcendental numbers](#), [Complex numbers](#), [Irrational/rational numbers](#), [Numbers](#)

Integers

non-negative integers	(whole/cardinal) numbers, positive integers	[with zero]	the lower non-negative integers are	0	1	2	3
positive integers	(counting/natural) numbers	[without zero]	the lower positive integers are	1	2	3	4
negative integers	produce 0 when added to corresponding positive integers		the higher negative integers are	-4	-3	-2	-1
written with	separation of groups of three digits						
	none with only four digits		5123	not	5 123		
	a space with five or more digits	internationally recognized	512 300	not	512300		
		many journals require	commas		512,300		
		some countries use	full stops		512.300		

NOTE the use of **punctuation** to separate groups of three digits is dictated by journal style

See: [Composite/perfect/prime numbers](#), [Counting/denominate/measurement numbers](#), [Decimal numerals/places/points](#), [Even/odd numbers](#), [Numbers](#), [Orders of magnitude](#)

Even/odd numbers

<i>even numbers</i>	integers (m) divisible by two without remainder										
	m = 2k where k is an integer										
	for k = 0	1	2	3	4	the lower non-negative even numbers are	0	2	4	6	8
<i>odd numbers</i>	integers (n) that are <i>not</i> even										
	n = 2k + 1 where k is an integer										
	for k = 0	1	2	3	4	the lower non-negative odd numbers are	1	3	5	7	9

See: [Integers](#), [Numbers](#)

Irrational/rational numbers

<i>irrational numbers</i>	divisible real numbers				
	with a fractional/decimal component				
	cannot be reduced to simple fractions (ratios)				
	decimals with an infinite number of digits				
	with no repeating pattern				
	[ellipsis indicates the lack of end]				
	include algebraic numbers				
	the square root of two	$\sqrt{2}$		$= 1.414\ 21\dots$	
	the golden ratio (phi)	$\phi = (1+\sqrt{5})/2$		$= 1.618\ 03\dots$	
	non-algebraic (transcendental) numbers				
	Archimedes' constant (pi)	π		$= 3.141\ 59\dots$	
	Euler's no. $(1 + 1/n)^n$	e		$= 2.718\ 28\dots$	
<i>rational numbers</i>	divisible real numbers				
	with a fractional/decimal component				

can be reduced to simple fractions (ratios)	5/1	7/4	1/1000	-1/10
decimals with an infinite number of digits				
with a repeating pattern				
[ellipsis indicates repetition]	1/3 = 0.333 33...		1/9 = 0.111 11...	
with a finite number of digits	5	1.75	0.001	-0.01
a denominator of prime factors 2 or 5	1/5	1/10	1/50	
indivisible real numbers				
with no fractional/decimal component				
integers non-negative integers (whole/cardinal numbers)			0, 1, 2, 3, 4	
positive integers (counting/natural numbers)			1, 2, 3, 4	
for integers >1 composite numbers			can be divided equally	
the product of two smaller positive integers			4, 6, 8, 9, 10	
prime numbers			can not be divided equally	
not the product of two smaller positive integers			2, 3, 5, 7, 11	
negative integers (negative counting/natural numbers)				
(producing 0 when added to the corresponding positive integers)			-4, -3, -2, -1	

See: [Algebraic/transcendental numbers](#), [Complex numbers](#), [Imaginary/real numbers](#), [Numbers](#)

Numbers in words/figures

<i>in words</i>	for the cardinal numbers	9 and below	zero, one, two... nine
		beginning sentences	Two rats were placed in each cage
		even if 10 or more	Twenty five attendees constitute a quorum
		mid-sentence	The gene family members are located at five loci
	for large rounded numbers		There are hundreds of endangered species [not 100s of]
			Thousands of spermatozoa reach the oviduct [not 1000s of]
<i>in figures</i>	for the cardinal numbers	10 and above	10, 11, 12...
		the numbers themselves	A copy number above 4 is associated with increased risk of disease
	for whole denominate numbers		He sold the book for £15
		even if nine or less	The temperature was 5°C
		beginning a sentence	6% of spermatozoa were motile
	for decimal numbers		The average age of puberty then was 14.5 years
		even if nine or less	This occurs around 2.5 years of age

See: [Cardinal/ordinal numbers](#), [Counting/denominate/measurement numbers](#)

Algebraic/transcendental numbers

<i>algebraic numbers</i>	roots of non-zero polynomial equations with one variable and rational integer coefficients	
	pure algebraic numbers	1 + i [solves $\sqrt{x^4 + 4} = 0$]
	all rational numbers	[solves $ax + b = 0$ for the integers a, b]
	non-transcendental irrational numbers	
	the square root of two	$\sqrt{2}$ [solves $x^2 - 2 = 0$]
	(the length of the hypotenuse of a right triangle with sides of length 1)	
	the golden ratio	$(1 + \sqrt{5})/2$ [solves $x^2 - x - 1 = 0$]
	(when the ratio of two values (a/b) is the same as that of their sum to the larger (a+b)/b)	
	pure imaginary numbers	i 5 · i
<i>transcendental numbers</i>	irrational real numbers that are not algebraic	
	Archimedes' constant (pi)	π = 3.141 59...
	(the ratio of the circumference of a circle to its diameter)	
	Euler's no. ($(1 + 1/n)^n$)	e = 2.718 28...
	(an exponential, the base of natural logarithms)	

See: [Complex numbers](#), [Exponentiation/logarithms](#), [Imaginary/real numbers](#), [Irrational/rational numbers](#), [Numbers](#), [Polynomials](#)

Polynomials

algebraic expressions	monomial	1 term	$3xy^2$
	binomial	2 terms	$5x - 1$
	trinomial	3 terms	$3x + 5y^2 - 7$
comprising	constants	3, 5, 7	
	variables	x, y	
	exponents	2 (²)	

See: [Algebraic/transcendental numbers](#), [Golden angle/ratio](#), [Mathematical comparators/operators](#)

Zero

the number 0, nought			
a non-negative integer (a real, rational, indivisible, whole/cardinal, even number)			
neither a prime number nor composite number			
sometimes written	\emptyset/\emptyset	to avoid confusion with the letters O/o and number 0	
pronounced	zero	1-0-0-2	one-zero-zero-two
	'oh'	2-0-0-4	two-oh-oh-four
	duck	(in cricket)	out for a 'duck' (0 runs)
	love	(in tennis)	forty-love (40- 0)
	nil	(in soccer)	three-nil (3-0)
for significant digits (sd)			
is significant	if between non-zero numbers in		

	whole numbers		3 sd	102
	decimals		5 sd	123.04
	if trailing to the right of the decimal point		4 sd	123.0
	[which provides precision]		5 sd	123.40
not significant	if leading to the left of non-zero digits		2 sd	0.10
	[which act as place-holders]		2 sd	0.020
for arithmetical operations				
addition	term + zero	= term		9 + 0 = 9
	zero + zero	= zero	[empty sum]	0 + 0 = 0
subtraction	term – zero	= term		9 – 0 = 9
	zero – term	= –term		0 – 9 = –9
multiplication	factor x zero	= zero		3 x 0 = 0
	zero x zero	= one	[empty product]	0 x 0 = 1 [be definition multiplying no factors is unity]
division	zero ÷ divisor	= zero		0 ÷ 9 = 0
	dividend ÷ zero		[invalid operation]	
exponentiation	nth power of zero	= zero		0 ⁿ = 0
	zero power of n	= 1	[by definition]	n ⁰ = 1 [1 = n ÷ n = n ¹ /n ¹ = n ¹⁻¹ = n ⁰]

See: [Composite/perfect/prime numbers](#), [Decimal numerals/places/points](#), [Factorials](#), [Integers](#), [Mathematical comparators/operators](#), [Naught/nought](#), [Numbers](#), [Significant digits](#), [Tare/zero](#)

PRECISION

Accuracy/dispersion/precision

accuracy	being accurate
	the extent to which measured values are close to the true , target or consensus value
dispersion	being dispersed, imprecise, unreliable
	the extent to which measured values are distant from each other
	for normally-distributed (Gaussian) data
	the dispersion of the data is usually presented as the standard deviation (SD)
precision	being precise, not dispersed, reliable
	the extent to which measured values are close to each other
	the precision of a measurement reflects the number of significant digits (sd) given
	the precision of 9.786 g (4 sd) is greater than that of 9.8 g (2 sd)
	for normally-distributed (Gaussian) data
	the precision of the data is usually presented as the dispersion (SD)
	± 1 SD contains 68.2% of the data
	± 1.96 SD contain 95.4% of the data
	± 3 SD contain 99.7% of the data
	the precision of the mean is given by the standard error of the mean (SEM) from N observations
	SEM = SD/√N
	the precision of a measurement is one order of magnitude less than that of the last significant digit (sd)
	9.786 g [4 sd] is precise to (4 – 1) = 3 sd [0.01 g]
	9.79 g [3 sd] (3 – 1) = 2 sd [0.1 g]
	9.8 g [2 sd] (2 – 1) = 1 sd [1 g]
	the precision of the error (in significant digits, sd) should be the same as that of the mean
	9.786 ± 1.34 are both precise to 3 sd
	9.79 ± 1.3 2 sd
	9.8 ± 1 1 sd
	for non-Gaussian data
	the precision of the data is usually presented as the median and 95% confidence interval

See: [Analysis of categorical data](#), [Decimal places/significant digits](#), [Gaussian/non-Gaussian distributions](#), [Mean/median/mode](#), [Orders of magnitude](#), [SD/SE/SEM](#), [Significant digits](#)

Significant digits (figures)

the number of single digits needed to determine a number's precision			
the number of significant digits (sd) depends on whether the numbers			
are	exact		
include	decimals		
contain	zeros or non-zero digits		
an exact (whole) number has an infinite number of significant digits			
a 4-well culture plate has 4 wells, no more, no less			
4 is an exact number 4.0000... (∞ sd)			
significant digits (sd) include			
all non-zero digits (1–9)			
	[with or without decimals]	123 (3 sd)	123.45 (5 sd)
any zeros between non-zero digits			
	[with or without decimals]	1203 (4 sd)	123.405 (6 sd) 1203.405 (7 sd)
trailing zeros (to the right of a decimal point)			
	[indicate precision]	123.0 (4 sd)	123.00 (5 sd) 123.000 (6 sd)
trailing zeros (to the right of the last non-zero digit) after a decimal point			
	[indicate precision]	123.450 (6 sd)	123.4500 (7 sd) 123.45000 (8 sd)
trailing zeros (to the right of the last non-zero digit) of a measurement number			
	[indicate precision]	1230 (4 sd)	12300 (5 sd)
non-significant digits include			

trailing zeros (to the **right** of **non-zero** digits) **with no** decimal place
 [used as place holders] 1000 (1 sd) 1200 (2 sd) 1230 (3 sd)

leading zeros (to the **left** of **non-zero** digits) to the **right** of the **decimal point**
 [used as place holders] 0.0123 (3 sd) 0.0012 (2 sd) 0.0001 (1 sd)

types of significant figure

certain digits (whose values are known with certainty)

uncertain digits (whose value is estimated)

uncertain trailing zeros (500)

without a decimal place

500 could mean **549** (rounded down) or **451** (rounded up)
 the **trailing zeros** are **uncertain** [are not significant: are **space-holders**]
only the **non-zero digit 5** is **certain** [is significant]
 hence **500** has 1 sd (5)

with a decimal place

500. is precise to the level of **units**
 the **trailing zeros** are **certain** [are significant: indicate **precision**]
all digits are important
 hence **500.** has 3 sd (5, 0, 0)

uncertain trailing zeros (45,600)

without a decimal place

46,500 has 3, 4 or 5 significant figures depending on how the last zeros are used

as a measurement number

45,600 m could be **precisely** measured or be a **rough** estimate
 as a **rough** estimate

the **trailing zeros** are **uncertain** [are not significant: are **space-holders**]
only the **non-zero digits 4, 5, 6** are **certain** [are significant]
 hence **45,600** has 3 sd (4, 5, 6)

if measurement is **precise to the nearest**

unit it has 5 sd (4, 5, 6, 0, 0)

ten units it has 4 sd (4, 5, 6, 0)

hundred units it has 3 sd (4, 5, 6)

45,600 m can be expressed **without** trailing zeros

as **45.6 km** (3 sd: 4, 5, 6)

45.6 × 10³ m (3 sd: 4, 5, 6)

4.56 × 10⁴ m (3 sd: 4, 5, 6)

uncertain leading zeros (0.052)

with a decimal place

0.052 is precise to the **nearest thousandth** of a unit
 the **leading zeros** are **uncertain** [are not significant: are **space-holders**]
only the **non-zero digits 5, 2** are **certain** [are significant]
 hence **0.052** has 2 sd (5, 2)

as a measurement number

0.052 km can be expressed **without** leading zeros

as **52 m** (2 sd: 5, 2)

elimination of uncertain, trailing or leading zeros by

changing the **unit prefix** in a number (may be ambiguous)

to a number with a **measurement unit** (unambiguous)

to **Scientific Notation**

which comprises **significant digits (1.3, 12.3)**

base and exponent digits (10³, 10⁻²)

1300 g **0.0123 L**

1.3 kg (2 sd) **12.3 mL** (3 sd)

1.3 × 10³ g (2 sd) **12.3 × 10⁻³ L** (3 sd)

[the **significant** or **mantissa**]

[**exact numbers** for which significant digits are **irrelevant**]

use of significant digits

to **indicate precision**: a number **cannot** be more precise than

the **device** making the measurement

if two balances (A, B) are precise to the **nearest 1 g** (A) and to the **nearest 0.01 g** (B)

and both measure **3 gram**

the reported values are for A **3 g** (1 sd) precise to the nearest 1 g

 B **3.00 g** (3 sd) precise to the nearest 0.01 g

the **numbers** used to calculate an answer

for **addition** and **subtraction**

the results should have the **same level of precision** as the **smaller** of those of the factors involved

addition of two mass measurements **16.7 g** and **5.24 g**

16.7 g is precise to the **nearest tenth of a gram**

5.24 g is precise to the **nearest hundredth of a gram**

16.7 + 5.24 = 21.94 g this indicates the sum is known to the nearest **0.01 g**

but this is true **only for the second term**

the value should be **rounded** to **0.1 g**: **21.9 g**

subtraction of two length measurements **362 m** and **78,500 m**

each value is precise to the **nearest whole number**

78,500 – 362 = 78,138 m this indicates that the difference is known to the nearest **whole number**

which is true for **both values**

no rounding is needed

for **multiplication** and **division**

the result should have the **same number** of significant digits as the **smaller** of those of the factors involved

multiplication of two length measurements **2.48 m** and **6.3 m**

2.48 m has 3 sd

6.3 m has 2 sd

$$2.48 \times 6.3 = 15.624 \text{ m}^2$$

this has 5 sd

which is true for **neither factor**

the value should be **rounded** to the **lower sd (2): 15.6 m²**

division of mass by volume

37.46 g has 4 sd

12.7 ml has 3 sd

$$37.46/12.7 = 2.949606 \text{ g/ml}$$

this has 7 sd

which is true for **neither factor**

the value should be **rounded** to the **lower sd (3): 2.95 g/ml**

to round measurements to a precise number

See: [Accuracy/dispersion/precision](#), [Accurate/precise](#), [Counting/denominator/measurement numbers](#), [Decimal numerals/places/points](#), [Decimal places/significant digits](#), [Orders of magnitude](#), [Rounding of numbers](#)

Rounding of numbers

whole numbers the rounding **up** or **down** of whole numbers to the nearest **smaller level of precision** to a **unit of ten**

to **break the tie**

(when one number lies midway between two others)

the convention is to round numbers with a units place

up	from	5 to 9	325 up	to	330
down	from	1 to 4	324 down	to	320

to **avoid bias** in the break-the-tie rounding process

(since more numbers are rounded **up** [5: 5–9] than **down** [4: 1–4])

the convention is to round numbers with a units place

up	from	6 to 9	326 up	to	330
down	from	1 to 4	324 down	to	320
		5	325 down	to	320
			335 up	to	340

decimal numbers the rounding **up** or **down** of decimal numbers to the **nearest smaller level of precision** to a **whole number** (with **no** decimal places)

to **break the tie**

(when one number lies midway between two others)

the convention is to round numbers with one decimal point

up	from	0.5 to 0.9	32.5 up	to	33
down	from	0.1 to 0.4	32.4 down	to	32

to **avoid bias** in the break-the-tie rounding process

(since more numbers are rounded **up** [5: 0.5–0.9] than **down** [4: 0.1–0.4])

the convention is to round numbers with one decimal point

up	from	0.6 to 0.9	32.6 up	to	33
down	from	0.1 to 0.4	32.4 down	to	32
		0.5	32.5 down	to	32
			33.5 up	to	34

rounded percentages **may not** add up to 100%

unrounded 36.5% + 24.5% + 39.1% = 100%

rounded 37% + 25% + 39% = 101%

unrounded 36.4% + 24.4% + 39.2% = 100%

rounded 36% + 24% + 39% = 99%

significant digits the rounding of significant digits considers **non-zero** digits to the **right** of the required position

when **less than 5** **remove** that digit and subsequent digits to its right

equal to or greater than 5 **add 1** to the rounding-off digit and **remove** that digit and those to its right

rounding **0.054913** (5 sd) to

3 sd: the first **non-zero** digit **after** the **rounding-off** digit (9) is 1

1 < 5 **remove** the 4th and subsequent digits **0.0549** (3 sd)

2 sd: the first **non-zero** digit **after** the **rounding-off** digit (4) is 9

9 > 5 **add 1** to the 4 and **remove** the 3rd and subsequent digits **0.055** (2 sd)

See: [Significant digits](#)

NUMBER SYSTEMS

Binary/decimal number system

binary numbers expressed as powers of the **base 2**

$$2^{10} = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 = 1\,024 \approx 10^3$$

$$2^{20} = 2 \cdot 2 \cdot 2 \cdot 2 \dots [\cdot 2] \dots \cdot 2 \cdot 2 \cdot 2 \cdot 2 = 1\,048\,576 \approx 10^6$$

$$2^{30} = 2 \cdot 2 \cdot 2 \cdot 2 \dots [\cdot 2] \dots \cdot 2 \cdot 2 \cdot 2 \cdot 2 = 1\,073\,741\,824 \approx 10^9$$

decimal numbers expressed as powers of the **base 10**

$$10^1 = 1 \cdot 10 = 10$$

$$10^2 = 10 \cdot 10 = 100$$

$$10^3 = 10 \cdot 10 \cdot 10 = 1\,000 \approx 2^{10}$$

$$10^6 = 10 \cdot 10 \cdot 10 \cdot 10 \cdot 10 \cdot 10 = 1\,000\,000 \approx 2^{20}$$

See: [Bit/byte](#), [Exponentiation/logarithms](#), [Mathematical comparators/operators](#), [Prefixes for binary multipliers](#), [Prefixes for decimal multipliers](#)

Exponentiation/logarithms exponentiation

a mathematical operation involving **two** numbers

a **base** number **b** and the **exponent (power)** **n** to which it is raised

written as **bⁿ** (**bⁿ**, **bⁿ**)

pronounced as **b** (raised) to the power/exponent (of) **n** **b** (raised) to the **nth** (power) the **nth** power of **b**

the **exponent** is the **number of repeated multiplications of b**

for b = 10	n = 1	10¹	10 x 1	= 10
	n = 2	10²	10 x 10	= 100
	n = 3	10³	10 x 10 x 10	= 1000
b = 2	n = 1	2¹	2 x 1	= 2
	n = 2	2²	2 x 2	= 4
	n = 3	2³	2 x 2 x 2	= 8

dividing exponential terms is equivalent to **subtracting** exponents

for $3^3/3^2 \equiv 3^{3-2} \equiv 3^1 = 3$

exponentiation is the **inverse** function to a **logarithm (log)**

the **exponent n** of a **base number b** is the **logarithm** of the antilogarithm **x** produced by **n** multiplications of **b**

logarithms

a mathematical operation involving **two** numbers

an **antilogarithm x** and a **base number b** by which it is serially multiplied

written as **log_b(x) = n**

pronounced as **log** to the **base b** of **x**

the **log** is the number of **repeated multiplications of the base number b**

types of logarithm

binary logarithms (log ₂)	b = 2	when x = 1024	log ₂ (1024) = 10	[1024 = 2 ¹⁰ = 2·2·2·2·2·2·2·2·2·2]
decimal logarithms (log ₁₀)	b = 10	when x = 1000	log ₁₀ (1000) = 3	[1000 = 10 ³ = 10·10·10]
natural logarithms (log _e , ln)	b = e ≈ 2.718	when x = 1000	log _e (1000) ≈ 6.908	[1000 = 2.718 ^{6.908}]

adding logs is equivalent to **multiplying** antilogs

for 3 x 3 = 9	log 3 + log 3 = log 9	(0.477 + 0.477 = 0.954)	antilog 0.954 = 9
2 x 4 = 8	log 2 + log 4 = log 8	(0.301 + 0.602 = 0.903)	antilog 0.903 = 8

a **logarithm (log)** is the **inverse** function to **exponentiation**

the **log** of an **antilogarithm x** is the **exponent n** to which a **base number b** must be raised to produce **x**

See: [Bit/byte](#), [Mathematical comparators/operators](#), [Numbers](#)

Linear/semi-logarithmic/logarithmic graphical plots

linear plots for **linear** relationships (**lin-lin**)

graphical plots of **linear y** versus **linear x**

produce **linear slopes** when $y = nx$

semi-logarithmic for **exponential** relationships (**log-lin**, **lin-log**)

graphical plots of **logarithmic y** versus **linear x**

produce **linear slopes** when $y = 10^x$

linear y versus **logarithmic x**

produce **linear slopes** when $y = \log_{10}(x)$

logarithmic for **monomial** ($y = a \cdot x^b$) equations (**log-log**)

graphical plots of **logarithmic y** versus **logarithmic x**

produce **linear slopes** when $y = x$, $y = x^2$, $y = x^3$

See: [Abscissa/applicate/ordinate](#), [Measurement scales](#), [Polynomials](#)

Prefixes for binary multipliers

Kilo (K)	2 ¹⁰ = 1 024	≈ 10 ³	Mega (M)	2 ²⁰ = 1 048 576	≈ 10 ⁶
Giga (G)	2 ³⁰ = 1 073 741 824	≈ 10 ⁹	Tera (T)	2 ⁴⁰ = 1 099 511 627 776	≈ 10 ¹²
Peta (P)	2 ⁵⁰ = 1 125 899 906 842 624	≈ 10 ¹⁵	Exa (E)	2 ⁶⁰ = 1 152 921 504 606 846 976	≈ 10 ¹⁸
Zetta (Z)	2 ⁷⁰ = 1 180 591 620 717 411 303 424	≈ 10 ²¹	Yotta (Y)	2 ⁸⁰ = 1 208 925 819 614 629 174 706 176	≈ 10 ²⁴

See: [Abbreviations of multipliers and units](#), [Binary/decimal number system](#), [Exponentiation/logarithms](#), [Kilo/kilo](#)

Prefixes for decimal multipliers

queto (q)	10 ⁻³⁰	ronto (r)	10 ⁻²⁷	yocto (y)	10 ⁻²⁴	zepto (z)	10 ⁻²¹	atto (a)	10 ⁻¹⁸
femto (f)	10 ⁻¹⁵	pico (p)	10 ⁻¹²	nano (n)	10 ⁻⁹	micro (μ)	10 ⁻⁶	milli (m)	10 ⁻³
centi (c)	10 ⁻²	deci (d)	10 ⁻¹	deca (da)	10 ¹	hecto (h)	10 ²	kilo (k)	10 ³
Mega (M)	10 ⁶	Giga (G)	10 ⁹	Tera (T)	10 ¹²	Peta (P)	10 ¹⁵	Exa (E)	10 ¹⁸
Zetta (Z)	10 ²¹	Yotta (Y)	10 ²⁴	Ronna (R)	10 ²⁷	Quetta (Q)	10 ³⁰		

See: [Abbreviations of multipliers and units](#), [Binary/decimal number system](#), [Exponentiation/logarithms](#), [Kilo/kilo](#)

Decimal numerals/places/points

decimal numerals **measurement** numbers that express a value less than one

with a decimal point to the **right** of the digit with place value 1

1.20 [one point **two zero**] (**not** one point **twenty**)

always preceded by a figure to the **left** of the decimal point

2.45 [two point **four five**] (**not** two point **forty-five**)

zero if necessary

0.50 [zero point **five zero**] (**not** zero point **fifty**)

each digit to its **right** is 1/10 that on its left

123.456 [one hundred/two tens/three whole numbers
4 tenths/5 hundredths/6 thousandths]

with **no space** between groups of three digits

when **only four** digits beside the decimal point

0.5876 **not** **0.587 6**

with a **single space** between groups of three digits

with **five or more** digits beside the decimal point

23.587 621 **not** **23.587621**

the **natural number 1** can be represented by the **numeral**

0.9999... or **1.0** or **1.00**

decimal places (dp) a significant digit

the **position** of a digit counted to the **right** of the decimal point

1 dp **3.1** 2 dp **3.12** 3 dp **3.123**

decimal points separate the **integer** and **fractional** parts of a number written in decimal form

internationally recognized as	a full stop	7.65
some countries use	a comma	7,65

NOTE **decimal point punctuation** is dictated by journal style

See: [Accuracy/dispersion/precision](#), [Counting/denominator/measurement numbers](#), [Decimal places/significant digits](#), [Dot/full stop/period/point](#), [Numbers](#), [Orders of magnitude](#), [Rounding of numbers](#), [Significant digits](#)

DATA OPERATIONS

Mathematical comparators/operators

comparators

=	equals, equal to	$3 \times 4 = 12 = 2 \times 6$
\equiv	equivalent, identical to	$3^3/3^2 \equiv 3^{3-2} \equiv 3^1 = 3$
\approx	approximately equal to	$2/3 \approx 0.67$
\sim	approximates	$\pi \sim 3.142$
\neq	not equal to	$5 \neq 6$
<	less than	$5 < 6$ $P < 0.05$
\ll	much less than	$5 \ll 50$
>	greater than	$6 > 5$ $P > 0.05$
\gg	much greater than	$60 \gg 6$
$\geq (\geq)$	greater than or equal to	$P \geq 0.05$
$\leq (\leq)$	less than or equal to	$P \leq 0.05$

operators

+	plus	addition	term + term = sum	$6 + 3 = 9$	
−	minus	subtraction	term − term = difference	$9 - 3 = 6$	
±	plus or minus	an interval	from (term − term) to (term + term)	9 ± 2 (7–11)	mean ± SD
\times (·)	times (multiplied by)	multiplication	factor \times factor = product	$3 \times 3 = 9$	$4 \cdot 2 = 8$
/ (÷)	over (divided by)	division	dividend/divisor = quotient	$9/3 = 3$	$8 \div 2 = 4$
			[numerator/denominator] (+ remainder)	$9/4 = 2$ (+ 1)	$8 \div 3 = 2$ (+ 2)
:	to	ratio	term : term	$1 : 2$	
$\sqrt[n]{b}$	n^{th} root of b	root	$\sqrt[n]{\text{(radicand)}}$	$n = \text{root}$	
\sqrt{b}	square root of b		term \times term = b	2^{nd} root	$\sqrt{16} = 4$ $[16 = 4^2 = 4 \cdot 4]$
$\sqrt[3]{b}$	cube root of b		term \times term \times term = b	3^{rd} root	$\sqrt[3]{27} = 3$ $[27 = 3^3 = 3 \cdot 3 \cdot 3]$
b^n ($b^{\wedge}n$)	b to the power n	exponentiation	base (b), exponent (n)	$n = \text{power}$	
b^1	b to the 1 st power		$b \times 1$	1 st power	$3^1 = 3$ $[3 = 3 \cdot 1]$
b^2	b squared		$b \times b$	2 nd power	$3^2 = 9$ $[9 = 3 \cdot 3]$
b^3	b cubed		$b \times b \times b$	3 rd power	$3^3 = 27$ $[27 = 3 \cdot 3 \cdot 3]$
$\log_n b$	log of b	logarithm	no. (x) of repeated base multiplications		
$\log_{10} b$	decimal log of b		$(10 \times 10) \times b$	base 10	$\log_{10}(1000) = 3$ $[10^3 = 10 \cdot 10 \cdot 10 = 1000]$
$\log_2 b$	binary log of b		$(2 \times 2) \times b$	base 2	$\log_2(1024) = 10$ $[2^{10} = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 = 1024]$
$\log_e b$, $\ln b$	natural log of b	Euler no. (e)	$(e \times e) \times b$	base 2.718	$\log_e(1000) = 6.908$ $[2.718^{6.908} = 1000]$
n!	factorial of n	permutations	$n! = n \times (n-1) \times (n-2) \times (n-3) \dots = n \times (n-1)!$		

See: [Algebraic/transcendental numbers](#), [Cubed/squared](#), [Equal/equals/equals sign](#), [Equal to/with](#), [Exponentiation/logarithms](#), [Factorials](#), [Measurement scales](#), [Minus/plus](#), [Plus sign](#), [Significant digits](#), [Zero](#)

Minus sign

represents **no pause**

as long as a short (En) dash	[−]
half the length of a long (Em) dash	[—]
twice the length of a hyphen	[-]

for subtraction	with a space either side	$94 - 90 = 4$	(ninety-four minus ninety equals four)
negative numbers	with no space before the number	−18	(minus 18)
		−70°C	(minus seventy degrees Celsius)

See: [Dash/hyphen](#), [Mathematical comparators/operators](#), [Spaces](#)

Plus sign

for addition	with a space either side	$94 + 90 = 184$	(94 plus 90 equals 184)
positive numbers	with a space before the number for remainders	$9/4 = 2$ (+ 1)	(9 over 4 equals 2, remainder plus 1)
	with no space before the number for values above zero	+180°F	(plus 180 degrees Fahrenheit)
		+100°C	(plus 100 degrees Celsius)

See: [Mathematical comparators/operators](#), [Spaces](#)

Factorials

factorials determine the possible **number of permutations** of objects

the **two** numbers 1,2 can be ordered in **two** ways

1 first 1-2 2 first 2-1

the number of permutations (the factorial (!) of **two**) is

the product of each number $2! = 2 \times 1 = 2$

the **three** numbers 1,2,3 can be ordered in **six** ways

1 first 1-2-3/1-3-2 2 first 2-3-1/2-1-3 first 3-1-2/3-2-1

the number of permutations (the factorial (!) of **three**) is

the product of each number $3! = 3 \times 2 \times 1 = 6$

$$\text{or } 3! = 3 \times 2!$$

the factorial of a **non-negative integer n (n!)**

is the **product** of all **positive** integers less than or equal to **n**

$$n! = n \times (n-1) \times (n-2) \times (n-3) \dots 3 \times 2 \times 1$$

$$\text{or } n! = n \times (n-1)!$$

$$5! = 5 \times 4! = 120$$

$$4! = 4 \times 3! = 24$$

$$3! = 3 \times 2! = 6$$

$$2! = 2 \times 1! = 2$$

$$1! = 1$$

for zero **0! = 1** since there is exactly **one permutation** of zero objects: there is nothing to permute

Golden angle/ratio

golden angle (theta θ)

the angle (θ) subtended by an arc when the **golden ratio (ϕ)** is applied to a circle

when the ratio (**a/b**) of two **arcs (a > b)** is the same as that of their sum (the circumference **C**) to the larger

$$a/b = C/a = (a+b)/a$$

the **fraction (f)** of a circle occupied by the **golden angle**

$$f = b/(a+b)$$

$$\text{expanding } b/(a+b) = b/a + b/b = b/a + 1$$

$$\text{so } f = b/a + 1$$

$$\text{from the golden ratio } \phi = a/b \text{ thus } b/a = 1/\phi$$

$$\text{so } f = 1/\phi + 1$$

$$\text{expanding } 1/\phi + 1 = 1/\phi + 1/1 = 1/(\phi + 1)$$

$$\text{so } f = 1/(\phi + 1)$$

$$\text{from the golden ratio } \phi = 1 + 1/\phi \quad \phi^2 = \phi + \phi/\phi = \phi + 1$$

$$\text{so } f = 1/\phi^2$$

$$\phi = 1.618 \quad \phi^2 = 1.618^2 = 2.618 \quad \text{and } 1/\phi^2 = 1/2.618 \text{ so } f = 0.381\,966 \text{ (0.382)}$$

$$\text{the magnitude of the subtended golden angle in degrees} = f \times 360^\circ = 0.382 \times 360 = 137.507^\circ$$

$$\text{in radians} = f \times 2\pi = 0.382 \times (2 \times 3.142) = 2.399 \text{ rad}$$

golden ratio (ϕ)

when the ratio (**a/b**) of two **values (a > b)** is the same as that of their sum to the larger

$$\phi = a/b = (a+b)/a$$

$$\text{expanding } (a+b)/a = a/a + b/a = 1 + b/a$$

$$\text{so } \phi = 1 + b/a$$

$$\text{and } a/b = \phi \text{ thus } b/a = 1/\phi$$

$$\text{so } \phi = 1 + 1/\phi$$

$$\text{multiplying by } \phi \quad \phi^2 = \phi + \phi/\phi = \phi + 1$$

$$\text{or } \phi^2 - \phi - 1 = 0$$

$$\text{solving the polynomial } \phi = (1 + \sqrt{5})/2 \text{ or } (1 - \sqrt{5})/2$$

$$\text{but must be positive i.e. } \phi = (1 + \sqrt{5})/2$$

$$\text{so } \phi = 1.618$$

See: [Degrees/radians](#)

Degrees/radians

degrees (**degrees of arc**, arc degree, arcdegree; symbol: degree symbol $^\circ$)

non-SI unit; a measurement of a **plane angle** in which **one full rotation is 360°**

subdivision **decimal notation** (**DD**: decimal degrees) 40.1875°

sexagesimal notation (**DMS**: degrees-minutes-seconds)

1° comprises 60 **minutes of arc** (symbol $'$)

1' comprises 60 **seconds of arc** (symbol $''$)

40° 11' 15"

conversion to radians

$$1^\circ = \pi/180 = 3.142/180 = 0.017 \text{ rad}$$

radians (rad)

dimensionless SI unit for measuring angles (1 rad = 1)

defined as the **angle subtended** from the centre of a circle that intercepts an arc **as long as its radius**

the size of an angle (theta θ) in radians is the ratio of the **arc length (s)** to the **radius (r)** of a circle with circumference (**C = 2 π r**)

$$\theta = s/r \quad \text{for a full circle (360°)} = 2\pi r/r = 2\pi \text{ radians}$$

$$\text{for a semicircle (180°)} = (2\pi r/2)/r = (\pi r)/r = \pi \text{ radians}$$

$$\text{for a right angle (90°)} = (2\pi r/4)/r = (\pi r/2)/r = \pi/2 \text{ radians}$$

conversion to degrees

$$1 \text{ rad} = 180^\circ/\pi = 180^\circ/3.142 = 57.3^\circ$$

See: [Golden angle/ratio](#)

STATISTICS

Descriptive statistics

characterise the population by estimates of the

central tendency of the data mean median mode

dispersion of the data standard deviation SD

of the mean standard error SEM

range total range highest and lowest values

inter-centile ranges interquartile range: 25th to 75th centiles

95% confidence interval: 5th to 95th centiles

distribution of the sample means may be

Gaussian (normal)

the central **95% CI** is **symmetrical** (not skewed)

data values equally above and below the mean, median, mode)

spans the 2.5th and 97.5th centiles

parametric statistics (using the parameters mean, SD) have high power

linear regression

non-Gaussian (non-normal)

the **95% CI** is **asymmetrical** (skewed)

mode the value in a series that occurs most often
together with data **dispersion**, characterises a distribution (descriptive statistics)

See: [Accuracy/dispersion/precision](#), [Mean/median/mode](#), [Statistical variance](#)

Mean/median/mode

mean	arithmetic mean (average, population mean μ , sample mean \bar{x}) the value obtained by dividing the sum of all values by the number of values
	values 3 4 5
	sum $3 + 4 + 5 = 12$
	n 3
	arithmetic mean $12/3 = 4.0$
	greater than geometric/harmonic means (unless the values are equal)
	less than the quadratic mean (unless the values are equal)
	geometric mean (GM) the value obtained by taking the <i>n</i>th root of the product of the <i>n</i> numbers
	values 3 4 5
	product $3 \times 4 \times 5 = 60$
	n 3
	cube root of product $\sqrt[3]{60} = 60^{1/3} = 3.91$
	less than the arithmetic mean (unless the values are equal)
	harmonic mean (HM) the value obtained by taking the reciprocal of the arithmetic mean of the reciprocals of each value
	values 3 4 5
	sum of reciprocals $1/3 + 1/4 + 1/5 = 0.33 + 0.25 + 0.20 = 0.78$
	n 3
	arithmetic mean of reciprocals $0.78/3 = 0.26$
	reciprocal of arithmetic mean $1/0.26 = 3.84$
	less than the arithmetic mean (unless the values are equal)
	quadratic mean (QM, root mean square RMS) the value obtained by taking the square root of the arithmetic mean of the squares of each value
	values 3 4 5
	sum of squares $3^2 + 4^2 + 5^2 = 9 + 16 + 25 = 50$
	n 3
	arithmetic mean of squares $50/3 = 16.66$
	square root of arithmetic mean $\sqrt{16.66} = 16.66^{1/2} = 4.08$
	greater than the arithmetic mean (unless the values are equal)
median	(50 th centile) the value situated in the middle of a series of numbers, with equal an number of values above and below it
	values 2 3 4 5 6
	median 4
	if there is no middle value, the arithmetic mean of the two middle values
	values 3 4 5 6
	median $4 + 5 = 9$ $9/2 = 4.5$
mode	(modal values) the value in a series that occurs most often
	values 2 3 4 4 5 6
	mode 4

See: [Centile/percentile](#), [Central limit theory/tendency](#), [Duplicate/replicate/triplicate](#), [Mathematical comparators/operators](#), [Quantile](#), [Statistical variance](#)

Statistical variance

variance	of values in a population sum of the squares (SOS) of the differences of each value from the mean of N values
	of a population the population variance (σ^2) $\sigma^2 = \text{SOS}/N$
	from a sample [taken from it] the sample variance (s^2) $s^2 = \text{SOS}/(N - 1)$
standard deviation (SD)	the square root of the variance the true (unknown) dispersion of data of the population the population SD (σ) $\sigma = \sqrt{\sigma^2}$
	an estimate of the population dispersion from one sample [taken from it] the sample SD (s) $s = \sqrt{s^2}$
standard error (SEM)	the standard error of the mean (SEM) the true (unknown) mean of data of the population the population SEM SEM $= \sigma/\sqrt{N}$
	an estimate of the sample mean dispersion [if many had been taken] from one sample [taken from it] the sample SEM SEM $= s/\sqrt{N}$

See: [Accuracy/dispersion/precision](#), [Analysis of categorical data](#), [Coefficient of correlation/determination/regression/variation](#), [Duplicate/replicate/triplicate](#), [Variance](#)

Computational statistics

are unnecessary if there is no variation	
for oocytes fertilised by testicular spermatozoa (TS)	0 ± 0%
cauda epididymal spermatozoa (CS)	100 ± 0%

ejaculated spermatozoa (ES) $100 \pm 0\%$
 there is a clear-cut difference TS 0 ± 0 versus CS, ES 100 ± 0
 lack of difference CS 100 ± 0 versus ES 100 ± 0

when **necessary** tests used depend on whether the measurements are **nominal** Contingency Tables
ratio all tests
 distributions are **Gaussian** parametric tests
 use **mean** and **variation** of the population
 determine if the **95% CIs** of the two groups **overlap**
 if they **do not** likely to be from **different** populations **significantly different**
 if they **do** likely to be from **the same** population **not significantly different**

non-Gaussian non-parametric tests
 use **distribution-free** tests
rank data on an **ordinal** scale
 or **transform** data to Gaussian and use parametric tests

samples are **unmatched** (independent)
 different samples e.g. individuals given different treatments
 (two variables: subject + treatment)
 compare **values** of **group 1** vs values of **group 2**
matched (dependent)
one sample e.g. individuals tested under before/after different treatment
 (one variable: treatment)
 compare **differences** (before – after) of each sample/individual **vs zero**

power estimates provide the number of samples necessary for a valid test
 depend on the
test to be applied (t-test, paired t-test, one-way ANOVA etc.)
desired power (usually 0.8: 80% chance of detecting a difference)
statistical power (alpha) (usually 0.05: a 95% confidence range)
number of groups to be compared (e.g. three regions, six time points)
expected SD of residuals (from previous experiments)
minimum detectable **difference** in means (from previous experiments)

Population-/subject-based control groups

population-based

two matched populations differing only in the treatments given
 one control group (C) **versus** one experimental group (E)
 statistical test only against control E vs C

more than two populations
 one control group (C) **versus** different treatment groups (E1, E2, E3)
 statistical tests against control E1 vs C E2 vs C E3 vs C
 all-paired comparisons E1 vs E2 E1 vs E3 E2 vs E3

subject-based

each individual receives sequentially control (C) **and** experimental (E) treatments
 to avoid age-, intra-individual- or seasonal-influences
 involve a cross-over design cohort 1: C first followed by E
 cohort 2: E first followed by C

See: [Double-/single-blind](#)

One-/two-tailed tests

one-tailed tests

consider only **one direction** to be extreme (and therefore unlikely)
 tests whether the mean test value is different in **only one direction** from the mean control value
i.e. is **only higher than** or **only lower than** the control mean value
 for a significance level of 0.05 **0.05** is in **one tail** of the distribution or the other
 the mean is considered statistically significant **only**
 if it lies in the **upper 5%** of the values (greater than the control) [and ignores the lower 5%]
e.g. testing drugs for **improved** actions are considered **only** if they are **higher than** the control limits
 (since the same or lower efficacy has no benefit over the existing drug)
 if it lies in the **lower 5%** of the values (lower than the control) [and ignores the higher 5%]
e.g. for WHO (2010) **abnormal** semen values are considered **only** to be **lower than** the reference range limits
 (since higher-than-normal values are unlikely to lead to infertility)

the one-tailed test provides **more power** to detect a difference in one direction by not testing the other direction
it is inappropriate to use a one-tailed test when no significance was achieved with a two-tailed test
 (for the sole purpose of attaining significance)

two-tailed tests

consider **both directions** as extreme (and therefore equally likely)
 tests whether the mean test value is different in **both directions** from the mean control value
i.e. is either **higher than** or **lower than** the control mean value
 for a significance level of 0.05, **0.025** is in **each tail** of the distribution
 the mean is considered significantly different **whether**
 if it lies within the **upper 2.5%** of the values (greater than the control)
 if it lies with the **lower 2.5%** of the values (lower than the control)
e.g. testing drugs for **any actions** are considered **both** if they are **higher** or **lower** than the control limits
 (since the new drug could be stimulatory [raise activity] or inhibitory [decrease activity])

Summary of statistical tests

for **overall differences** between datasets

for distributions that are

with **independent** (unmatched) groups

two groups

three or more groups

two combinations of factors

three combinations of factors

with **repeated measures** (matched groups)

two groups

three or more groups

two combinations of factors

Gaussian

Student's t test

One Way ANOVA

Two Way ANOVA

Three Way ANOVA

Paired t test

One Way Repeated Measures ANOVA

Two Way Repeated Measures ANOVA

non-Gaussian

Mann-Whitney Rank Sum Test

Kruskal-Wallis ANOVA on Ranks

no easy test (transform data, use Parametric)

no easy test (transform data, use Parametric)

Wilcoxon Signed Rank Test (Mann-Whitney U test)

Friedman Repeated Measures ANOVA on Ranks

no easy test (transform data, use Parametric)

if these tests indicate $P < 0.05$ there are **significant differences within** the dataset**post hoc tests**determine **which groups differ** from which othersa **less conservative test**may indicate a **significant difference** when **there is none** (a **Type I error**).a **more conservative test****may not** indicate a **significant difference** when **there is one** (a **Type II error**).it is better to **err on the side of a Type II error**

(so that any significant differences reported are probably true)

comparisons can be made with

a **control group** (C)all **pair-wise comparisons** (AP)for **unmatched** groups

analysis of variance (ANOVA)

one-way ANOVA (1W)

two-way ANOVA (2W)

three-way ANOVA (3W)

for **matched** groups

repeated measures (RM)

one-way RM ANOVA (1WRM)

two-way RM ANOVA (2WRM)

in order of preference (robustness)

for **Gaussian** distributions

for two groups

(t test, paired t test)

t-statistic

for more than two groups

(1W, 1WRM, 2W, 2WRM, 3W)

Holm-Sidak test

AP+C

More conservative than Tukey, Bonferroni

Dunnett's test

C

Less conservative than Bonferroni

Tukey test

AP+C

More conservative than SNK

Student-Newman-Keuls (SNK) test

AP

Bonferroni's t test

AP+C

Fisher's Least Squares Difference test

AP+C

Least conservative, not recommended

Duncan's Multiple Range test

A P

not recommended

for **non-Gaussian** distributions

for two groups

(Mann-Whitney Rank Sum test)

t-statistic

for more than two groups

(Kruskal-Wallis, Friedman RM, ANOVA on Ranks)

Dunn's test

AP+C

Missing values allowed, unequal group size allowed

Tukey test

AP+C

No missing values allowed

Student-Newman-Keuls (SNK) test

AP

Equal group sizes needed

Dunnett's test

C

Equal group sizes needed

Analysis of categorical data

for rates and proportions (nominal, categorical measurement scales)

Contingency Tables with data in groups and categoriescomparing **independent** (**unmatched**) groups

1 x 2

two groups in one category

z-test

2 x 2

two groups in two categories

and <5 data per cell

Fisher Exact Test

and >5 data per cell

 χ^2 analysis of contingency

>2 x >2

 χ^2 analysis of contingencycomparing **dependent** (**matched**) groups

1 x 2

two groups in one category

McNemar Test

2 x 2

two groups in two categories

Yates correction of z-test**Odds Ratio (OR)**a statistical parameter that quantifies the strength of the **association** between two eventsprovides the **odds** (**chances**) of two events occurring in the **presence** and **absence** of the other

for A and B

OR is the ratio of

the **odds of A** in the **presence of B** tothe **odds of A** in the **absence of B**the **odds of B** in the **presence of A** tothe **odds of B** in the **absence of A**

when OR = 1

A and B are **independent**the **odds of A** are the **same** in the **presence or absence** of Bthe **odds of B** are the **same** in the **presence or absence** of AOR \neq 1A and B are **dependent**

OR > 1

A and B are **positively** associated (correlated)B **raises** the odds of AA **raises** the odds of B

OR < 1

A and B are **negatively** associated (correlated)B **reduces** the odds of AA **reduces** the odds of BSee: [Coefficient of correlation/determination/regression/variation](#), [Measurement scales](#)

coefficient of correlation

the **correlation coefficient (R)** is a measure of the **degree of linear relationship** between variables

for **simple linear regression** there are **two** variable (x, y)

R indicates how much one variable tends to change when the other does

it can range from -1 and 1 through 0

1 the variables move in unison

they rise and fall together

there is a perfect **positive** correlation

0 the variables move independently

when one moves the other does

there is no relationship

-1 the two variables move contrarily

when one increases the other decreases

there is a perfect **negative** correlation

for biologically meaningful correlations R is usually > 0.6

for **multiple linear regression** there are **more than two** variables

R is computed, but is **difficult to explain** because multiple variables are involved

coefficient of determination

the **determination coefficient (R²)** is **the square of the correlation coefficient**

can be used for both **simple linear** regression and **multiple linear** regression

R² indicates the **percentage of variation in y** that is **explained by all the x variables** together

it can never be negative, since it is a squared value

for R = +1 R² = 1: 100% of the variation in y is explained by changes in x

for R = -1 R² = 1: 100% of the variation in y is explained by changes in x

for R = 0.6 R² = 0.36: 36% of the variation in y is explained by changes in x

for R = 0.8 R² = 0.64: 64% of the variation in y s explained by changes in x

coefficient of regression

the **regression coefficient (a)** represents the **rate of change** of one variable (y) as a function of changes in the other (x)

it is the **slope of a linear regression** line where (y = ax + b) and b is the intercept on the y-axis

coefficient of variation

the **variation coefficient (CV)** is extent of variability of data in relation to the mean of the population

it is a standardised measure of **dispersion of data**

defined as the ratio of the standard deviation (SD) to the mean (\bar{x})

$$CV = SD/\bar{x}$$

often expressed as a percentage

$$CV = (SD/\bar{x}) \times 100$$

See: [Accuracy/dispersion/precision](#), [Analysis of categorical data](#), [Statistical variance](#)

Establishing cause and effect

correlation **does not** imply causation

it is improper to **deduce causation solely** from an **association** between two events

correlation implies causation is a **post hoc fallacy** (a questionable-cause logical fallacy)

but flawed reasoning **does not** necessarily imply that the conclusion is **false**

one can **infer causation** from correlation

because it is a **necessary** condition if A **does** cause B, A and B **must** be correlated

but it is **not** a **sufficient** condition

for any two correlated events, A and B, there are four possible, **not** mutually exclusive, relationships

direct causation/causality

A causes B

observation the more wind is observed, the faster windmill sails are observed to rotate

correct conclusion increased wind (A) causes windmill sails to rotate (B)

A → B

reverse causation/causality

B causes A

observation the faster windmill sails are observed to rotate, the more wind is observed

false conclusion rotation of windmill sails (B) causes the higher wind (A)

B → A

common causation/causality A and B are both caused by a hidden, third factor, C

observation sleeping with one's shoes on is strongly correlated with waking up with a headache

false conclusion sleeping with one's shoes on (A) causes headaches (B)

A → B

but a more plausible explanation is that both are caused by going to bed drunk (C) which

both makes you forget to take off your shoes (A)

C → A

and causes the headache (B)

C → B

bidirectional causation/causality

A causes B and B causes A

observation cyclical changes in numbers of rabbits and foxes

correct conclusion in a predator-prey relationship

as predator numbers (A) increase, prey numbers (B) fall

A↑ → B↓

leading to a decrease in food supply and predator number

B↓ → A↓

as predator numbers (A) fall, prey numbers (B) increase

A↓ → B↑

leading to an increase in food supply and predator number

B↑ → A↑

coincidental relationships

there is no connection between A and B

the two variables are **not related** at all, but are correlated by **chance**

the more variables examined, the more likely that two unrelated variables will appear to be related

with a **statistically significant** relationship between A and B

coincidence may be ruled out, but the other points remain

See: [Illogical inferences of causation from correlation](#)

Illogical inferences of causation from correlation

reverse causation false reasoning

observation in the Middle Ages Europeans noted that there were rarely lice on sick people

false conclusion people get sick (B) because they have no lice (A)

A → B

but it is the other way around

true conclusion lice are sensitive to high body temperature, and leave sick people for cooler hosts

B → A

observation ex-smokers/drinkers are more likely to die of lung/liver cancer than current smokers/drinkers

false conclusion stopping smoking/drinking (A) causes death by lung/liver cancer (B)

A → B

	but when smokers/drinkers are told they have lung/liver cancer, many stop smoking/drinking	
true conclusion	the lung/liver cancer (B) kills them and causes them to stop smoking/drinking (A)	$B \rightarrow A$
observation	children who watch a lot of TV are the most violent	
conclusion	watching a lot of TV (A) makes children more violent (B)	$A \rightarrow B$
	this could be true but may not be	
	if violent children (B) prefer watching TV more than less violent	$B \rightarrow A$
observation	cyclists have a lower Body Mass Index (BMI) than non-cyclists	
conclusion	cycling exercise (A) increases physical activity levels and decreases BMI (B)	$A \rightarrow B$
	this could be true but may not be	
	if low BMI people (B) are more likely to cycle (A) than those with high BMI	$B \rightarrow A$
observation	recreational drug use is correlated with psychiatric disorders	
conclusion	taking recreational drugs (A) leads to mental disorders (B)	$A \rightarrow B$
	this could be true but may not be	
	if people use drugs (A) to self medicate for pre-existing conditions (B)	$B \rightarrow A$
common causation false reasoning		
observation	young children who sleep with the light on are more likely to develop myopia in later life	
conclusion	sleeping with the light on (A) causes child myopia (B)	$A \rightarrow B$
	but there may be a link between parental myopia (C) and child myopia (B)	$C \rightarrow B$
	as myopic parents (C) may be more likely to leave their children's bedroom light on (A)	$C \rightarrow A$
observation	as ice cream sales increase, the rate of drowning deaths increases sharply	
conclusion	ice cream consumption (A) causes drowning (B)	$A \rightarrow B$
	but more ice cream is sold during hot summer months (C) when people keep cool by	
	both eating more ice cream to keep cool (A)	$C \rightarrow A$
	and partaking in water-based activities, increasing chances of drowning deaths (B)	$C \rightarrow B$
observation	since the 1950s, both the atmospheric CO ₂ level and obesity levels have increased sharply	
conclusion	atmospheric CO ₂ (A) causes obesity (B)	$A \rightarrow B$
	but richer populations (C) tend to	
	both produce more CO ₂ (A)	$C \rightarrow A$
	and eat more food, increasing the incidence of obesity (B)	$C \rightarrow B$
observation	HDL cholesterol is negatively correlated with incidence of heart attack	
conclusion	taking medication to raise HDL (A) decreases the chance of heart attacks (B)	$A \rightarrow B$
	but genes, diet and exercise (C) affect	
	both HDL levels (A)	$C \rightarrow A$
	and the chances of heart attacks (B)	$C \rightarrow B$
observation	subjects with low cholesterol suffer from an increase in mortality	
conclusion	low cholesterol (A) increases your risk of mortality (B)	$A \rightarrow B$
	but diseases such as cancer (C)	
	both lower cholesterol (A)	$C \rightarrow A$
	and an increase in mortality (B)	$C \rightarrow B$

See: [Establishing cause and effect](#)

Measurement errors

deviations of estimates from their true values

sampling errors	related to the sample chosen	
indicated by	the difference between a sample statistic used to estimate , and the actual but unknown value, of a parameter	
caused by	sampling bias:	the choice of non-representative samples
estimated by	the sampling error:	for numbers (<i>N</i>) = the standard error as a percentage = $100 \times (\sqrt{N}/N)$
reduced by	effective sampling:	the choice of a truly random sample chosen without bias
	increasing sample size	
non-sampling errors	not related to the sample chosen	
systematic errors (statistical bias)		
indicated by	inconsistent results from the same measurement errors being affected in a predictable direction errors being constant or proportional to the value	
caused by	instrumental errors:	inappropriate calibration of the instruments
	observational errors:	imperfect methods of observation
	environmental errors:	interference of the environment with the measurement process
reduced by	standardised procedures	
random errors (random variation)		
indicated by	inconsistencies in the values of a measurement	
caused by	chance:	factors that cannot be controlled
	inherently unpredictable fluctuations in the readings of a measurement apparatus	
	the experimenter's interpretation of the instrumental reading	
estimated by	comparing multiple measurements	
reduced by	averaging multiple measurements	
gross errors		
due to	technical errors:	taking the wrong measurement or reading recording incorrect data
	paradigm errors:	adoption of invalid scientific approaches to measurement
	participant bias:	being influenced by social desirability, supporting or opposing a particular opinion
	researcher bias:	being keen to confirm a particular theory
avoided by	being careful, honest	

See: [SD/SE/SEM, Gaussian/non-Gaussian distributions](#)