



Common Mistakes and How to Fix them

QUICK REVIEW

TERM	DEFINITION	EXAMPLE
Noun	Person, place, or thing	Professor, laboratory, drug, results
Verb	Action word or state of being	Test, determine, explore; be, am, are, is, was
Adjective	Modifies/describes a noun	<u>Toxic</u> drug, <u>brilliant</u> student
Adverb	Modifies/describes a verb or an adjective	<u>Definitively</u> test, <u>precisely</u> determine, <u>very</u> toxic drug
Preposition	Expresses a relation to another word	In, to, of, on, for, by, at, over, under, into, beside
Conjunction	Connects clauses or sentences	And, or, but

PARTS OF SENTENCES	DEFINITION	EXAMPLE
Subject	Who/what does the action	<u>The drug</u> cured the patient.
Predicate	What the action is	The drug <u>cured</u> the patient.
Object	What receives the subject's action	The drug cured <u>the patient</u> .

How to use CORRECT COMMAS

The Oxford Comma

In scientific writing, it is accepted to use commas between all items in a list, including the last item before “and.” This is called “the Oxford comma.”

With: “for dinner we had two appetizers, steak, and mashed potatoes.”

Without: “for dinner we had two appetizers, steak and mashed potatoes.”

Are the appetizers steak and mashed potatoes, or did they have appetizers and steak and mashed potatoes? The Oxford is much clearer.

Parenthetical Commas

“Parenthetical” loosely means that it could also be put in parentheses, or that it is an “aside” or an “addition”; the sentence would be complete without it.



Rule	Examples
Commas always come in pairs when in the middle of a sentence!	<ul style="list-style-type: none"> ▪ The inhibitor genistein, which is supposed to be selective for tyrosine kinases, inhibited this serine kinase-mediated response. ▪ Propranolol, the prototypical beta antagonist, has many dangerous side effects.
One comma is OK only if the parenthetical statement ends the sentence.	<ul style="list-style-type: none"> ▪ The reaction was inhibited by C3 toxin, a selective blocker of Rho. ▪ The reaction was inhibited by C3 toxin, a selective blocker of Rho, and also by the Rho kinase inhibitor Y25632.
"And" and "but" go <u>outside</u> the parenthetical statement commas	<ul style="list-style-type: none"> ▪ The control cells, contrary to our hypothesis, showed less internalization. ▪ The control cells showed modest internalization <u>but</u>, contrary to our hypothesis, drug-treated cells showed less internalization. <p>NOT:</p> <ul style="list-style-type: none"> ▪ The control cells showed modest internalization, <u>but</u> contrary to our hypothesis, drug-treated cells showed less internalization.

Comma Splices, or the Run-On Sentence

The run-on sentence occurs when a writer has connected two main clauses, or complete ideas, with a comma alone.

Example: Chris was eating crackers, he was going to eat some cheese but he couldn't find it.

There are two easy punctuation tricks to fix this sentence:

Make two separate sentences.	Chris was eating crackers. He was going to eat some cheese but he couldn't find it.
Put in a semi colon	Chris was eating crackers; he was going to eat some cheese but he couldn't find it.

Want more information on commas? Visit ScWRL: <http://scwrl.ubc.ca/student-resources/grammar/mechanics-and-punctuation/>



PROPER PLURALS

Know which is singular and which is plural and then use the correctly matched verb form!!

Singular	Plural
criterion	criteria
phenomenon	phenomena
mitochondrion	mitochondria
equilibrium	equilibria
medium	media
bacterium	bacteria
optimum	optima
minimum, maximum	minima, maxima
symposium	symposia
datum	data
hypothesis	hypotheses
thesis	theses
axis	axes
stimulus	stimuli
fungus	fungi
nucleus	nuclei
focus, locus	foci, loci
alumnus	alumni

Singular forms all end in consonants

Plural forms (almost) all end in vowels

"Most graphs have two axes—one x-axis and one y-axis."

"When given a stimulus, cells responded. Responses were different for different stimuli."

"There are three loci for drug intervention: the most common locus is the cell surface receptor, a second important locus is the intracellular signaling pathway, and the newest locus is targeting the nucleus with gene therapy."

- The use of “data is/was...” vs. “data are/were....” is no doubt the most frequently misused example.
- The word “data” is absolutely and always plural!!!



FAULTY PARALLELISM

This refers to when two or more parts of a sentence are similar in meaning, but not parallel (grammatically similar in form).

This happens most often with items in a series.

Example: “The drug induced side effects. These included headache, feeling nauseas, and gas.”

Correct: “The drug induced side effects. These included headache, nausea, and gas.” Or “These included having a heading, feeling nauseas, and getting gas.”

Rule: Pay attention to structure and tense! Match nouns with nouns and verbs with verbs.

For more on parallel structure, visit <http://scwrl.ubc.ca/student-resources/grammar/grammar/>

SPACES BETWEEN NUMBERS AND UNITS

Don't put numbers and units next to each other! They often require a space.

These require spaces...	Correct	Incorrect
Temperatures – between value and degree sign	37 °C	37° C or 37°C
Centrifugal forces - on both sides of the “x”	10,000 x g	10,000g or 10,000xg
Around equals sign, <, >, ~, etc	n = 3, x > 5	n=3 or x>5
Concentrations	a 50 mM buffer 10 µM concentration	10mM or 6M
** Percentages are the exception	5% serum	5 % serum

For more basic rules for working with numbers and units, visit <http://scwrl.ubc.ca/student-resources/grammar/numbers-and-units/>

HYPHENS BETWEEN NUMBERS AND UNITS

It's not always a matter of spaces. Sometimes a hyphen is used instead of a space.

Space if...	Example	Why?
The number is an adjective and the unit is a noun	The diameter of the dish was 35 mm.	“35” is the adjective describing the noun “mm”
Hyphenate if...		
The number-plus-unit is used as an adjective	Cells were grown in 35-mm dishes.	“35-mm” is an adjective describing the noun “dishes”



HYPHENS IN COMPOUND WORDS

When two or more words are joined together to form a longer word, this is a compound word. Without hyphens, the meaning changes!

Hyphenate if...	Example	
Compound numbers are written as words	Fifty-four patients were enrolled in the study (54 patients)	
A noun-verb combination is used as an adjective	The drug-induced side effects <ul style="list-style-type: none"> "The drug-induced side effects of aspirin include GI distress." Here, <i>drug-induced</i> is a compound adjective describing the subject, <i>side effects</i> .	The drug induced side effects <ul style="list-style-type: none"> "The drug induced side effects. These included headache, nausea, gas, ..." Here, <i>drug</i> is the subject, <i>induced</i> is the verb, and <i>side effects</i> is the object.
An adjective-verb combinations is used as a compound adjective	"blue-labeled" tubes <ul style="list-style-type: none"> if the <u>labels</u> on the tubes are blue 	"blue labeled tubes" <ul style="list-style-type: none"> if the <u>tubes</u> are blue and also labeled (but labeled in red!) the red-labeled blue tubes = the blue tubes with red labels
Two words modify the same word.	Two nouns with the same verb <ul style="list-style-type: none"> The epinephrine- and isoproterenol-induced responses were... Two verbs with the same noun <ul style="list-style-type: none"> Drug-sensitive and -insensitive cells were compared for... 	
Don't hyphenate if...	Example	
Both words modify the same word	<ul style="list-style-type: none"> a weak organic acid a weekly planning meeting 	<ul style="list-style-type: none"> refers to an acid that is both weak and organic a meeting that happens weekly and for planning

UBC's Science Writing Resources for Learning (ScWRL) has more helpful rules for working with numbers and units: <http://scwrl.ubc.ca/student-resources/grammar/numbers-and-units/>

There are also resources on hyphenation and other punctuation: <http://scwrl.ubc.ca/student-resources/grammar/mechanics-and-punctuation/>



COMMONLY MISUSED WORDS

There are certain words that are easy to misuse. Here is a list of words that are often confused with one another, some examples, and some rules:

That vs. Which	
That	Which
Used to restrict the meaning or to identify a specific entity	Does not restrict but rather elaborates or describes
<p>Examples of correct use:</p> <ul style="list-style-type: none"> ▪ The estrogen <i>that</i> is present in most birth control pills is ethinyl estradiol. ▪ The estrogen drug ethinyl estradiol, <i>which</i> is present in most birth control pills, is only slightly different from endogenous estradiol. ▪ The estrogen <i>that</i> is present in most birth control pills, <i>which</i> has been modified for greater oral effectiveness, is ethinyl estradiol. <p>Examples of incorrect use:</p> <ul style="list-style-type: none"> ▪ The estrogen <i>which</i> is present in most birth control pills is ethinyl estradiol 	
<p>Rule # 1: If the phrase can be taken out without losing the meaning of the overall sentence, use “which.” If the phrase is vital to the point of the sentence, use “that.”</p> <p>Rule #2: “Which” statements are almost always set off with commas. “That” statements should NOT be set off with commas</p> <ul style="list-style-type: none"> ▪ If commas seem needed or natural, use “which” ▪ If commas are not needed or seem awkward, use “that” 	

Effect vs. Affect	
Effect	Affect
Usually a noun, “a change or result of a cause” (although can be a verb, “to bring about,” usually with “change”)	Usually a verb, “to have an effect on” (although can be a noun, in psychology, referring to emotion)
<p>Examples of correct use:</p> <ul style="list-style-type: none"> ▪ Exercise training had no <i>effect</i> on the number of AT2 receptors. ▪ Exercise training did not <i>affect</i> the number of AT2 receptors. ▪ Drinking a beer with lunch can <i>affect</i> your afternoon productivity. ▪ The <i>effect</i> on productivity of drinking a beer with lunch is usually negative. ▪ Dissolving the drug in ethanol did not <i>affect</i> the cellular <i>effect</i> of the drug. 	
<p>Rule #1: When in doubt, try to determine if the word you need shows action (in which case, you probably want “affect”) or if it refers to an event (in which case, you probably want “effect”)</p>	



Who vs. That	
Who	That
Use when referring to people	Use when referring to things
Examples of correct use: <ul style="list-style-type: none"> ▪ She is the person <i>whom</i> you should contact. ▪ A car with low fuel consumption is the one <i>that</i> you should buy. Examples of incorrect use: <ul style="list-style-type: none"> ▪ She is the person <i>that</i> you should contact. 	
Rule #1: Determine if you are referring to a person or a thing and act accordingly!	

Watch out for these homonyms (words that sound the same)
<ul style="list-style-type: none"> ▪ here/hear ▪ there/their/they're ▪ your/you're/yore ▪ its/it's (its = possessive; it's = it is) ▪ whose/who's ▪ to/too/two

Additional Resources

UBC's Science Writing Resources for Learning (ScWRL) also has helpful student resources on the following topics:

Communicating Science (including communicating uncertainty, producing effective tables and figures, and more)

<http://scwrl.ubc.ca/student-resources/communicating-science/>

Finding, Integrating, and Citing Sources

<http://scwrl.ubc.ca/student-resources/finding-identifying-and-citing-sources/>

Grammar and Style (including active vs. passive voice, grammar, and more)

<http://scwrl.ubc.ca/student-resources/grammar/>

Developing an Effective Writing Process (including editing, organizing, avoiding plagiarism, and more)

<http://scwrl.ubc.ca/student-resources/guideline-for-effective-writing-writing-process/>

Learning Strategies for Communicating Science (including how to approach instructors, self-assessment, and more)

<http://scwrl.ubc.ca/student-resources/learning-strategies-for-communicating-science/>

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