

How to cite sources for a scientific paper

Why cite?

Any time you refer to a fact that you didn't discover yourself, or use a direct quotation from another source, you *must* tell readers where you found that information, both to avoid plagiarism, and also so that readers can track information to the original source. (You do not have to cite sources for facts that are common knowledge - things like "Humans generally have two feet.")

The Name-Year System

We will use what is called the **Name-Year system**, which is widely used in science. This system has two components. Each of your sources should be listed in BOTH these places:

1. In the text of the paper: The authors' last names and the year of the paper.
2. At the end of the paper: A Literature Cited section with FULL information for all your sources.

1. SHORT CITATIONS IN THE TEXT:

A typical Name-Year citation in the text, for a single-author paper, looks like this:

Tribbles are a highly invasive species (Kirk, 2007).

Notice that the period for the sentence goes *after* the parentheses.

You can sometimes work some or all of the citation information into the sentence itself:

Kirk (2007) reported that tribbles reproduce rapidly.
In a 2007 study, Kirk studied tribble reproduction.

Multiple citations in same sentence:

Sort the citations alphabetically by last authors' name, and separate with semicolons:

There has been much disagreement about the nature of tribbles (Kirk, 2007; McCoy, 2006).

Exactly two authors:

Cite both authors' names:

Tribbles are generally regarded as "cute" (Kirk and Spock, 2007; Picard and Kirk, 2006).

Three or more authors:

Cite the first author and then put "*et al.*" (this is short for "et alii", meaning "and the others"). Since *et al.* is Latin, put it in italics. Notice the period goes after the "al."

A consortium of 100 researchers has recently sequenced the tribble genome (Kirk *et al.* 2007).

Please note - "*Et al.*" should ONLY be used when there are *three or more authors*, and ONLY in the short citation in the text - never in the Literature Cited section.

If same first author(s) has multiple papers with the same year:

Assign the papers an "a", "b" etc., after the year, to distinguish them from each other. Use the same "a" and "b" in the Literature Cited so that your readers can figure out which information came from which paper.

Kirk and Spock have published two studies about tribbles (Kirk and Spock, 2005a, 2005b). Tribbles apparently reproduce by parthenogenesis (Kirk and Spock, 2005b).

2. LITERATURE CITED SECTION

The short citations in the text are really just "pointers" to allow the reader to track down the full citation in a "Literature Cited" section at the end of the paper.

Basic format for the Literature Cited:

List all your sources alphabetically by last name of the first author, using this format:

Name. Year. Title. Journal Volume(Issue): Pages-pages.

For example: (notice the format for names, and notice the hanging indent)

LITERATURE CITED

Kirk JT. 2004. An initial report on tribble infestation aboard the Starship *Enterprise*. Journal of Random Astrobiology 27(3):1127-1183.

McCoy LH, Kirk JT. 2005. Peculiar reaction of Klingons to proximity of tribbles. Annals of Fictional Medicine 31:3-13.

(The issue # is optional, as some journals do not have issue numbers.)

Please note that you MUST put the journal volume number and page numbers, even if you found the article on the web. Web addresses can change, but a journal's volume and page #'s are permanent.

See the next page for more examples.

Webpages

Only use a webpage if it's from a REPUTABLE SOURCE, such as a well-known government agency, professional science organization, newspaper, or a qualified researcher. For example, the websites of New York Times, the American Medical Association, and the US Fish & Wildlife Service are examples of "reputable" sources. A quick guideline for other websites is: *did they cite their sources?* If not, don't use that website!

Citing webpages:

If the author is unknown, put the institution or organization in place of the author name:

In the text:

The United States instituted a controversial tribble embargo shortly after the

initial alarming incident (US Fish & Wildlife Service, 2007).

If you can't find the author AND can't find an organization name either, it's probably not a reliable source to use for your paper.

Always put the complete URL in the full reference in the Literature Cited (see next page).

Wikipedia

Wikipedia, the open-source encyclopedia at www.wikipedia.org, is often a good place to get general background information. However, beware - WIKIPEDIA IS ERRATIC. The strength and weakness of Wikipedia is that *anybody can edit it at any time*. Some entries are just plain wrong, and entries on controversial and political topics tend to be re-written very frequently by those with opposing points of view.

I recommend using Wikipedia for an initial overview of your topic and a way to find other sources - it's excellent for that purpose - but **NEVER use Wikipedia as your only source**.

Journal Article

Authors' names separated by commas. Year of publication. Article title. Journal Title. Volume number: page numbers.

BE SURE YOU PUT ALL OF THE INFO LISTED ABOVE. A URL alone is NOT sufficient because many URLs for journal articles only last a few months.

Example with two authors:

- Hulbert AJ, Else PL. 1999. Membranes as possible pacemakers of metabolism. *Journal of Theoretical Biology* 199:257-274.
Ishikawa H, Evans M. 1995. Specialized zones of development in roots. *Plant Physiology* 109:725-727.

Example with three or more authors:

- Curtright R, Rynearson JA, Markwell J. 1996. Anthocyanins. *Journal of Chemistry Education* 73:306-310.

Article or Chapter in a Book

Authors' names separated by commas. Year of publication. Article or chapter title. In editors' names, editor(s). Book title. Edition. Publisher's location: Publisher's name. pp. inclusive pages.

- Bennett AF, Dawson WR. 1976. Metabolism. In: Gans C, Dawson WR, editors. *Biology of the Reptilia*. 2nd ed. New York: Academic Press. pp. 127-223.

Book

Authors' or editors' names. Year of publication. Title of book. Publisher's location: Name of publisher. Number of pages.

- Hochachka PW, Somero GN. 1984. *Biochemical Adaptations*. Princeton, NJ: Princeton University Press. 537 p.
Treshow M. 1970. *Environment and plant response*. New York: McGraw-Hill. 250 p.

Website

Author (or if not available, organization responsible for site). Year last revised if you can find it. Title of site. <URL> Date you visited.

Note URL is given between angled brackets - this helps clarify where it ends exactly.

Ristic Z. 2001. Plant Lipids. <<http://www.usd.edu/biocareers/risticb413sp2001/lec17.htm>> Retrieved 3 October 2002.

Online Reference Book

Authors' names separated by commas. Year of publication. Title. In editors' names, editor. Book title. Edition. Publisher's location: Publisher's name. pp. inclusive pages. Name of database. Date accessed.

Robinson R. 2002. Muscular dystrophy. In: Longe JL, editor. Gale encyclopedia of medicine. 2nd ed. Detroit: Gale. p 2261-2267. Gale Virtual Reference database. Accessed 29 January 2007.

ADDITIONAL HELP WITH CITATIONS

There are two other sources of information available to you that can help with preparing proper citations.

- (1) A Writer's Resource, 2nd edition, is the campus classroom-writing handbook and should be used by students as a writing reference (it is available in the bookstore).
- (2) The UP Library website has a link to some information on citations. Be sure you access the section about citations for the sciences using the **Name-Year System**.

TIPS & COMMON MISTAKES

Make sure ALL citations in the text have an entry in the Literature Cited too, and that all entries in the Literature Cited have an citation in the text. *If you didn't cite it in your paper, don't put it in the Literature Cited.*

Do not use **bold printing** or underlines in citations. Use *italics* only for a scientific name or a Latin word. (like *Homo sapiens*, or *et al.*)

Do not use quotation marks “ ”. In general - DO NOT quote large phrases or whole sentences directly. YOU are the author of your own paper, so put everything in your own words. Long direct quotes will make you come across as either unsure of yourself, or lazy. (An exception is if you've found a truly poetic, beautiful or interesting phrase that you want to quote for artistic reasons, for emotional impact, or for historical context.)

Do not write out author's first name. Use the last name and first initial (and middle initial if given).

Do not use **&** in place of **and** when citing in the text (Smith **and** Jones 1994).

Use a hanging indent if more than 1 line is necessary for the reference citation.

Note there is a difference between citing a book and citing a *chapter* in a book. In some books, each chapter has a different author. (See "Article or Chapter in a Book, above.)

Use angled brackets around URL address <....>.

Use the complete title of the journal.

Do not use "*et al.*" for a two-person paper. If there are just two authors, write out both their names - Smith and Jones, etc.

Do not use "*et al.*" in the Literature Cited. "*Et al.*" is only used to keep things concise in the main text of your paper. In the Literature Cited section, list all of the authors' names.