DOCUMENTATION IN THE SCIENCES

Unlike other disciplines, the sciences do not use a single, standardized documentation format. Documentation styles in science tend to be journal-specific: the editors of *Nature* prefer one format while those of the *British Journal of Cancer* prefer another. For this reason, it is important to be familiar with the most commonly used documentation formats, and to make sure you know which one your professor, or editor, prefers. Most science documentation is based on one of three general formats: the name-and-year system, the alphabet-number system, and the citation-order system.

Name-and-year system

The name-and-year system involves in-text references: the author's name and the publication date of a given source are listed in a parenthetical reference within the text of your document. For example, a 2005 article written by Semple and Messenger would be cited (Semple and Messenger, 2005). The reader would then look to the References section of the paper to find out the rest of the publication information. Note that, unlike similar formats in the social sciences, no page number is provided. Articles with three authors can be cited using all three names in the first citation (Semple, Messenger, and Clarke, 2004) and then be shortened using *et al* in the remaining citations (Semple *et al*, 2004). If an article has more than three authors, use the name of the lead author followed by *et al* each time you cite it. In the References section, however, cite all of the authors named in the article.

Alphabet-number system

The alphabet-number system numbers each reference in an alphabetical list. When referring to a reference in the text, simply include the number of the article in superscript, as one would a footnote or endnote, or in square brackets. For example, if the Semple, Messenger, and Clarke article were number 25 in your References list, then your sentence would adopt one of the following formats:

> In emergency room patients, however, cardio-pulmonary distress can often be attributed to waiting room stress.[25]

> In emergency room patients, however, cardio-pulmonary distress can often be attributed to waiting room stress [25].

Every reference to a given article is made using the same number. You may end up citing reference 25 a dozen times in your paper, while referring to reference 13 only once.

Citation-order system

The citation-order system (often called IEEE documentation in Engineering) is a variation on this approach. Instead of being numbered alphabetically, citations are numbered in sequence. The first reference in the paper is number one; the second is number two, and so on. Again, the references are noted in either superscript or square brackets, as above. However, each reference is given only one number. If you refer to a source more than once, use the original number each time. That number will correspond to the listing on your References page.

Regardless of the format you choose, the References page will provide the full publication information for the source. That publication information should include the authors' names, date of publication, title, source (journal title and volume, for example) and page number.

> Semple I, Messenger D, Clarke JL (2004) False positives for the defibrillator: the effects of stress on cardio-pulmonary distress in emergency room patients. Emergent Care 201: 147–156.

When in doubt about proper formatting, check the documentation styles used in your source material. Use their References pages as a guide for your own. Alternatively, if you have been asked to follow the format of a particular journal, go to that journal's web site. Most science journal websites include a page of submission guidelines that outline their formatting requirements in detail.