

Science

LAB REPORT FORMAT

Introduction:

- contains the *background information* that the reader needs to know in order to understand your lab report.
- includes all relevant theories, terms, important people, etc.
- done in paragraph format (a mini-essay).
- direct quotes from a book or other sources must be referenced *or you will be guilty of PLAGIARISM and may receive a mark of zero.* (See Parenthetical Style of Documentation.)
e.g.: "Research evidence suggests that the large protein molecules are the key players in facilitative diffusion" (Galbraith 1989).

Purpose:

- simply state the reason for doing the experiment in statement or question form.

Apparatus and Materials:

- use two headings (apparatus is the hardware used and materials are the things that are used up.)

Procedure:

- past passive - in the past without using 'I' or 'we'.
INCORRECT: "We then put 100 ml of water in each beaker."
CORRECT: "100 ml of water was added to each beaker."

Observations:

- Record your results in either table/graph/written form as directed by your teacher, or as dictated by the lab.
- All tables and graphs must have an appropriate title.

TABLE 1: TITLE

time(min)	beaker #1 (C)	beaker #2 (C)
0	14	27
5	17	35
10	22	43

Discussion:

- This is where you must explain “WHY YOU GOT WHAT YOU GOT”!!
- This is done in paragraph form (No first person!) and can be done quite easily if you do the following:
 - a) Explain the results in your tables/graphs.
 - b) Are there any trends or patterns?
 - c) Is this what you expected? If so, why? If not, why?
 - d) Any other observations made during the lab that need to be explained?

Conclusions:

- A direct statement related to your purpose

References:

- In science, the term “References” is used, *NOT* Works Cited or Bibliography.
- When information is “referenced”, the year of this information is important. For example, our knowledge of cell membrane structure is different from the 1950s, to the 1970s to the 2000s. The more recent your references are, the better/stronger they are. So then, when a reference is made, the AUTHOR and YEAR should be given.
 - eg. Galbraith, D. (1989), *Understanding Biology*, John Wiley & Sons, Toronto, pgs 1- 15.
- See the section on Works Cited/ Bibliography for more information.
- References must be listed in alphabetical order.
- A reference only needs to be listed once in your reference section.

Referencing in Science

Why?

Science ideas and concepts are changing constantly. Our knowledge of the atom, the cell, DNA , etc... is different today than it was 10, 20, 50 or 100 years ago. Scientists who discover things must be given credit for it by having their name associated with their findings, eg, Bohr's model of the atom, Watson & Crick's model for DNA, Einstein's Theory of Relativity.

What needs to be referenced?

You need to be clear in your writing as to what are YOUR ideas and what came from some other source. To refuse to do so can result in PLAGIARISM which is a serious offense. As you research your topic, you will be borrowing things from other people/sources. Any facts / diagrams / statistics / opinions / etc that are not your own MUST be referenced. You must state WHO and the YEAR of your source of information. Anything that is "general knowledge" should not be referenced.

For example,

1. All eukaryotic cells have a nucleus.
2. Rising blood sugar levels stimulates the release of insulin.
3. Electrons are found orbiting the nucleus.

How to reference?

As mentioned, the YEAR of your information is very important. So, the AUTHOR and YEAR become the main focus. Here are a couple of common usages:

a. Paraphrasing an author - Paraphrasing means that you are using the information from this source but you are crediting THEIR information even though you are writing it in YOUR own words.

eg #1. The Naturopath diet occurs in two stages which deals with weight loss first by restricting simple carbohydrates and a weight maintenance stage which deals with returning to proper lifestyle pattern of eating (Kendall-Reed, 2001).

eg #2. The human brain has some 12 billion neurons and 500 synapses all linked together in incredible complexity (Bower and Hilgard, 1981).

b. Direct Quotes - in this case, you are taking the information DIRECTLY from the source, so you place it in quotation marks, indicating the source (author, year) after the quotes.

eg #1. "I believe that how we eat is an important determinant of how we feel and how we age" (Weil, 2001).

eg #2. "With few exceptions , the Mediterranean diet comes very close to adhering to all of the nutritional requirements of the body " (Weil, 2001).

At the end of your report / lab, you should have a REFERENCE section where you list all of the sources you used for information. They are listed in alphabetical order and should follow this basic format:

Author, (YEAR), Title, publisher/web site

Examples:

Kendell-Reed, P (2001), The Naturopathic Diet, Quarry Press Inc.

Weill, A (2001), Eating Well for Optimum Health , Random House Inc, NY

Your source needs to be mentioned in the reference section only ONCE even if you used it several times throughout your report. Ask yourself this simple question: did you use this reference in our writing? If so, it must appear in your reference section.

NOTES:

Internet Referencing - Remember these common errors:

a. Just because something appears on the Internet does NOT mean that it is correct. Anyone can put up a web site which could have false/inaccurate information. A web search on a search engine (eg. Google) will simply direct you to web sites that contain your key search words. It does not mean that they are valid.

b. Some sites do not have actual authors. If not, here are some suggestions:

i.. Use the web site as your author. If there is no year mentioned, use today's date and mention it in your reference section (**version current as of Day Month Year**)

ii. You may want to use the designations (internet 1, 2004) and (internet 2 , 2004) , etc as your authors. In your reference section, you will then place them in alphabetical order and include the necessary information as described here.