

### The Components of a Complete Laboratory Report

After performing an experiment, scientists usually prepare a report which describes what has happened. The report not only includes the results of the experiment, but also contains all of the preparatory work needed to perform the experiment, so that another scientist can read the report and completely reproduce the experiment in his/her own laboratory.

Although there is no hard-and-fast rule to the actual format of a complete laboratory reports, the sections described below contain all the necessary elements of such a report. Please follow this guide when you are instructed to write up a complete laboratory report on an experiment.

- 1) **Title Page:** This must include your name, name of your partners (if applicable), title of the experiment, date the experiment was performed, course code and section, name of teacher (2 pts).
- 2) **Hypothesis:** State what you are trying to prove true or false in the experiment. It should appear something like this: "If [condition], then [expected result]". Fill in the [] sections with the appropriate information specific to the experiment (2 pts).
- 3) **Materials:** Include a complete list of all equipment and chemicals used in the experiment. This must be done in tabular form so that it is easy to read. Simply writing a sentence with a string of equipment names separated with commas is difficult to read, and will result in reduced marks. Don't forget any chemicals used. (5 pts)
- 4) **Procedure:** Describe the steps you followed to perform the experiment. Each numbered step must begin a new step on a new line. Long paragraphs of several steps put together are hard to read, and will result in reduced marks. Do not use pronouns when writing steps, and use the past tense. (ie. Don't say things like "I filled the beaker with water", or "You fill the beaker with water". Say things like "The beaker was filled with water") (up to 10 pts)
- 5) **Safety Considerations**  
If there are any special safety considerations for this experiment, include them here. (5 pts)
- 6) **Observations:**  
Describe what happened during the experiment. This may include anecdotal descriptions of chemicals or reactions, measurements made during the experiment (such as temperatures, masses, time). Numerical measurements must be organized in tabular form. (up to 10 pts, depends on experiment)
- 7) **Calculations and results:**  
If there are calculations required, perform them in this section. If you must repeat a specific calculation several times, you can demonstrate the full calculation once, and then simply report the following results. If possible, present in tabular form. (up to 10 pts, depends on experiment)
- 8) **Discussions:** Discuss the results of your experiment by answer any questions given to you. If required, put your general and specific conclusions here as well. Also state if you proved the hypothesis to be true or false. (x pts, depends on experiment).

All of the above points will fall into the application category. A mark out of 10 will also be given which will fall in the communications category. The mark will depend on a variety of factors, which can include the following: the quality and fluency of the language used; correct grammar, spelling and punctuation; correct use of applicable vocabulary; clarity of explanations. Note: including non-applicable information or using arguments that do not apply to the experiment or theories that apply to the experiment can result in loss of marks in this category!