

# Creating the Perfect Laboratory Report

This handout is a guide for helping you create high quality lab reports for every lab exercise performed in class. *Follow your teacher's specific instructions as to what parts should be included in a report for any given lab.*

**I. TITLE:** The title of your lab should be as specific as possible and in the following format:

**The Effect of \_\_\_\_\_ on \_\_\_\_\_ (over time)**

\*this first blank has the variable that you changed in your exp.

\*the independent variable

\*the one from the **x-axis** of graph

\*this second blank has the variable that you measured during your lab experiment

\*the dependent variable

\*the variable from the **y-axis**

**II. PROBLEM/PURPOSE:** Why are you doing this lab?

This can be stated as the question you will answer  
If the statement is a question, don't forget to use a question mark (?).

**III. HYPOTHESIS:** Always will be an "If.....then..." statement. **ONE SENTENCE!!**  
The hypothesis should relate to the purpose/problem of the lab.

**IV. SAFETY CONCERNS:** Are there any safety precautions related to this lab?  
List them using complete sentences and include reasons for why they should be done.

**V. PROCEDURE:** The procedure should be in a step-by-step, numbered format  
Be as specific as possible  
ex. don't say: "get a beaker", say "use one, 400mL beaker"  
Remember, someone else should be able to repeat the experiment exactly.  
What materials are you using?  
What variables are important in this experiment?  
Which variables will be controlled? How?  
Which variable will be tested in your experiment? How?

**VI. DATA TABLE:** Every data table should have a title. *Usually* the title of the table is the same as the title of both the lab report and of the graph! Use a ruler to create a neat table!

**The Effect of** (variable you are changing) **on** (variable you are measuring)

Variable (units)	Trials	Variable (units)	Average of Variable (units)
The first column of every data table has the independent/experimental variable	no one is perfect, so it is always a good idea to do at least three trials!	Each of the next data table columns has the dependent variable. This is the stuff you are measuring in the lab	If you have trials, you must calculate an <b>average</b> . Usually, you only graph the average of your data

**VII. GRAPH:** See rules for creating the perfect graph!  
 Follow all graphing rules  
 Use the checklist on the graph paper to ensure the quality of your work

**VIII. ANALYSIS QUESTIONS:** Some labs have specific questions that you must answer.  
 Be specific in your answer.  
 Cite your lab data in your answer when appropriate  
 Answer question thoroughly using complete sentences  
 You may also be asked to summarize your lab data in this section and analyze what the data means with respect to your hypothesis

**IX. CONCLUSION:**

*The conclusion is the most important section of the lab report, because in the conclusion, you must demonstrate that you understand your lab data and how to do the lab! The conclusion usually consists of these three parts:*

- A. Did you prove or disprove your hypothesis? ***Explain how you know by citing your lab data.***
- B. Explain why you obtained the results for this experiment. Relate concepts learned in class to the lab. Really prove to your teacher that you understand why you performed the lab.
- C. State what you learned from this lab exercise.  
 -or-  
 State any related experiments that could be done

- > Typed lab reports are **STRONGLY** encouraged, and are *occasionally required!*  
**Lab reports written in pencil will NOT be graded!! Use pen or type all reports!**
- > When you complete your lab report, proof read for spelling and grammar errors. Double check to make sure all important aspects for both data table and graph are present. Did you do all the parts required for this lab?
- > Be proud of your work! Make sure your name is on it!
- > Save all lab reports because they are a good review of concepts when studying for your final and may be helpful for your second semester project!