

STUDENT LABORATORY REPORT FORMAT

Laboratory reports provide a formal analysis of results of a controlled study. The following elements, which align with parts of the scientific method, should be included in a laboratory report. As a formal report, the laboratory report should be typed and use complete sentences unless otherwise indicated by your teacher.

TITLE - This should include the independent and dependent variables with the effect observed in the laboratory.

PURPOSE: This should be an introduction that addresses the reason for doing the lab. Include any necessary background information that was researched, collected, or learned before performing this lab. This might include information from a pre-laboratory activity.

HYPOTHESIS: The hypothesis is an educated guess or statement that can be tested. This should have been written before performing the laboratory experiment.

PROCEDURE: The procedures are the steps that were performed to test the hypothesis under controlled conditions. The procedures should include the following elements:

- Write in paragraph form and in the past tense.
- Include materials in procedural steps.
- Use the proper names of equipment used in the experiment.
- Write a separate paragraph for each major step of the procedure.
- Use titles for each section of the procedure.
- Identify the independent variable, dependent variable, control, constants and if trials were repeated.

OBSERVATIONS/DATA: Record all observations or data from the lab. Use a chart, drawing, or some other organized form to record the data. Make careful and accurate measurements and use metric units with labels.

ANALYSIS: This should be a written interpretation and summary of the results obtained from the experiment. Create a graph(s) of your data, if appropriate. In paragraph form, answer any questions given in the lab activity. If no questions are provided, use the following questions:

- What data did you gather from the experiment? Why did you gather this data?
- Did you have any unusual or outlier results? What is the percent error?

CONCLUSION: The conclusion should include several paragraphs. The following topics should be discussed within the conclusion:

- Compare the hypothesis to the data collected. Did the data support or fail to support your hypothesis? Explain.
- Did you fulfill your purpose for doing the lab? What did you discover by performing this lab? Include specific references to your data.
- What is the scientific explanation for how the independent variable was affected by the dependent variable? Be descriptive and thorough, whenever possible, connect your explanation to a concept or procedure found in the lab.
- Explain any experienced or potential sources of error in the experiment. What could be done to correct or reduce the error in the lab? How could this lab be improved?
- How might the information learned from the experiment be expanded upon with further investigation? What could be the application of the learned information in a different situation or real world?