

Lab Report Template

Please write your report **clearly and in a logical order**. A poorly arranged layout may result in a deduction in your grade.

Also, please number all your equations in “Methods” part, and give a number and title to all the tables. Please make sure to display “all borders” of the excel forms.

1. Objective

State what you want to achieve in this experiment. A formal way to do this is to state a question or hypothesis that you want to address. This should be the **scientific goal** of the experiment, **not the educational goal** (though you should understand that too). **One or two well thought out sentences** is all that you should need for this.

2. Methods

You should include a **summary** of the lab procedure in your words; **do not merely copy what is in the manual**. This section should demonstrate your understanding of exactly **what you measured, how you measured it, and why this measurement helps you answer the question you posed in the objective section**. You don't need to detail each step of math that you will do in the analysis, just what your general approach will be for getting your raw data to answer the question you are interested in. **Please try to finish the method part within a page. Include necessary formulae and equations, with numbering.**

3. Data Analysis

Follow the steps in the lab manual to take all necessary data and finish the analysis. Answer all questions in the lab manual. Notice the following points:

- Show numbers (raw data, results and uncertainty) **explicitly** in discussions.
- **Show key steps for data and error analysis calculations.**
- Write **units for all numbers (raw data, plots, results, uncertainties etc.)**.
- All values should be accompanied with uncertainties, if applicable.
- Unless a reasonable explanation is given, skipped or misconducted steps or questions might result in a deduction in your grade.

4. Conclusion

Go back and **answer the question you stated in the beginning**. Does your data allow you to support or reject your hypothesis, or is the data inconclusive? Also do you have anything you can compare your results with (e.g. a value in the literature, a second measurement, a measurement with a different method, other lab groups)? How well does it compare to such a value?” Also, please **briefly** say some words (1 or 2 sentences) about the main sources of error and how the sources affect the error. **Show and discuss your results with numbers explicitly or by referring to the tables.**