

Lab Report Guidelines

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1 Introduction

This section should not use subheadings generally.

1.1 Theory and equations

All theory and all equations needed for the experiment get included. You can skip derivations (if unneeded) but this should be sufficient to do the lab and explain the material.

1.2 Purpose

At most a few lines stating what you are trying to do in the experiment.

2 Materials and Methods

2.1 Materials List

List the equipment used in the experiment, and if possible the uncertainty for the device.

2.2 Methodology

The steps with sufficient detail to reproduce the experiment.

3 Data and Analysis

This does not need subsections either, but it can use them, it's up to you.

3.1 Data

Tables or charts or plots of data, as appropriate for the experiment. If there are measurements required for the experimental setup that are not part of the main data collection, they should also be reported.

3.2 Analysis

Here's where you should work through your analysis, for example "The height and time data from Table 2 was plotted to yield Figure 1. Equation 1 was used to fit this data, yielding a slope of [value] \pm [uncertainty]..." In short this should guide the reader from the data to the results.

4 Discussion and Conclusion

5 Discussion

Here you should report your value, with a comparison and % deviation from the theoretical value, and then answer any questions in the following paragraphs. The order of this doesn't matter so use your judgement. You should also go over sources of experimental error in a paragraph in this section, and ways to minimize it in the future.

6 Conclusion

This should restate the main results and if the experiment was successful.

7 Notes

Always include uncertainty with your measurements and calculated values. Sample calculations and propagation of uncertainty can go in the appendix which does not count toward page limits. But be aware that the appendix may not be read in depth so essential info should remain in the body of your report. Include your name and student number with the reports.