



PHYSICS LAB WRITE-UP INSTRUCTIONS

Write the experiment number, title and your name on the top line of your lab report. Write your report as follows:

PURPOSE Briefly state the purpose of the experiment. Explain what you are setting out to find. e.g. The purpose of this experiment is to determine the acceleration of an object due to the force of gravity in Winnipeg.

THEORY Describe the theory you must know in order to do the experiment. Explain any scientific laws involved and how they apply to the experiment. You will likely have to do some research in your textbook or in the library. Describe all equations used or seek to verify. Show the derivation of any working equations. Explain all the variables and constants in the equations and give the units for each.



APPARATUS Make a list all the measuring instruments used in the experiment. Include the tolerance or smallest division on its scale.

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|------|------------------------|----------------|
| e.g. | 1. meter stick | ± 0.001 m |
| | 2. vernier calipers | ± 0.0001 m |
| | 3. digital stopwatch | ± 0.01 s |
| | 4. dial-o-gram balance | ± 0.001 g |
| | 5. protractor | ± 1 degree |

Describe any unique features of your apparatus (a diagram may be helpful here).

OBSERVATIONS & CALCULATIONS Put all of your observations into neatly drawn data tables. Each data table must have a title and each column must have a heading and its unit of measure. Do not repeat the unit beside the measured values all the way down a column; just writes the number. Include any graphs or histograms. Show your calculations. This can be done in a table when the calculations are repetitious.

CONCLUSION A conclusion is a general statement about what you think your results mean or what was determined. This judgment is based on your carefully made observations. Often the conclusion is a one-sentence answer to the object. For example; I determined that the acceleration of an object due to gravity in Winnipeg is 9.6 m/s^2 . Be sure to write your results with respect for significant figures or use some other accepted method of expressing the uncertainty. You should also include a discussion of the problems you encountered (such as uncontrolled variables) and suggestions for reducing the error.

OTHER CONSIDERATIONS

- Do not copy the work of others. You are responsible for submitting your lab report. Do not include a hypothesis or a method section (it's given).
- Underline all titles and headings.
- If possible you should write-up the Purpose, Theory, Apparatus sections and construct the observations tables **before** beginning the experiment. This will ensure that you know what to do and that you are prepared and organized. It should also allow you to hand-in your report the same day (no homework!)
- Hand write your reports. Word processing will only slow you down and your time is important.
- Lab reports are due the next class.
- Make special arrangements with the teacher if you are away the day of the lab.
- Marks will be deducted for lab reports that are handed in late.