

## Writing a Physics Lab Report

On weeks that our lab comes from the textbook, you will need to write up your own lab paper. Some of this – materials, procedures, etc. – must be done before you come to lab, so that you can conduct the entire experiment from your lab paper rather than your textbook. Most of what you need to write your lab report is contained in the Physics Lab in your book and can simply be copied from the book onto the lab report. You can use a computer to do everything **except record data**. The rest of the lab report, such as analysis and conclusions, will not be written until after the lab is completed.

### Before lab, you should write up each of these sections:

**Title:** Write the title of the lab.

**Objective:** Write the objective(s) of the lab.

**Question:** Write the question (“Problem”) to be answered by conducting the lab.

**Hypothesis:** Write your hypothesis, if required.

**Materials:** List your materials.

**Procedure:** Copy the procedures from the book. Be sure you understand each procedure you list. If you don’t, be prepared to ask questions before lab starts.

Some labs are “Design Your Own” labs, where you will have to plan your own experiment. For these labs, consult with your lab partner during the week and decide on your procedures together ahead of time. Write them out clearly.

**Data or Observations:** Prepare table(s) or other spaces to record data or observations during the lab. Sometimes the Physics Lab will show you the type of table(s) to make, other times, you will have to figure out what you will need according to the procedures. (During lab, you will record Data or Observations in the spaces you have prepared.)

### After lab, you will write up these sections:

**Analysis / Conclusion:** Copy and answer all questions listed under “Analyze and Conclude.” Some labs will also require a graph.

**Application:** Copy and answer the “Apply” question(s) that you are assigned.

**When you are finished, your lab report will look like a short, simple science fair paper.**

Here is an example of how a completed lab report might look:

***The Effect of Rock Size on Window Damage***  
*Janey Doe*

*Objective: To determine the effect of rock size on window damage*

*Question: Do larger rocks make bigger holes?*

*Hypothesis: I believe that larger rocks will make larger holes in windows.*

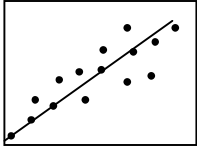
*Materials: 15 rocks of different sizes  
15 windows  
ruler  
scale*

*Procedure:*

- 1. Make two lines on the pavement approx. 2m apart. One line is for window placement, the other is where the rock should be thrown from.*
- 2. Find the mass of one of the rocks and record it in the table.*
- 3. While one partner holds the window steady at one mark, the other partner should stand on the other mark and throw the rock at the window.*
- 4. Calculate the area of the hole and record it in the data table.*
- 5. Repeat steps 1-4 for each rock.*

*Data:*


*Analysis:*  
*Graph your data. Is there a relationship between rock size and hole size? Yes. The bigger the rock, the bigger the hole. There appears to be a linear relationship.*



*Conclusions:*  
*Was your hypothesis correct? Yes, larger rocks make larger holes.*  
*Identify any possible source of error. The holes weren't perfectly round, so the area of the hole could have been miscalculated. Also, rocks could have been thrown at different speeds.*

*Application:*  
*Should people who live in glass houses throw stones? No!*