

Writing a Chemistry Lab Report

On weeks that our lab comes from the textbook ("ChemLabs"), you will need to write up your own lab paper. Some of this must be done before you come to lab; in addition to answering pre-lab questions, you will also have to write up materials, procedures, etc., 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 ChemLab 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.

Pre-Lab: Copy the pre-lab questions and answer them.

Hypothesis: Write your hypothesis, following guidelines from the pre-lab question.

Materials: List the materials you will need for the lab.

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.

Data or Observations: Prepare table(s) or other spaces to record data or observations during the lab. Sometimes the ChemLab 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. You may type your data into your finished lab report if you wish, but your original data sheet should still be handed in as well.

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 – don't forget labels and a title.

Real-World Chemistry: Copy and answer the assigned "Real-World Chemistry" question(s).

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?

Pre-Lab: What is the equation for the area of a circle? $A = \pi r^2$

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

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

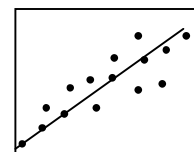
Procedure:

- 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.

Real-World Chemistry:

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