

CHEMISTRY LAB REPORT FORMAT

Not all labs will require that you will write a lab report, but many will and they will require that you follow this lab report format.

Write your lab reports in ink in the bound notebook, writing on only one side of the paper. All data collected in the lab should be recorded in ink. You may also type the report if you feel more comfortable doing that, but you will need to turn in your notebook along with your typed report.

The purpose, procedure and data table need to be completed by the beginning of the class period the lab is scheduled. If I have given you the lab information ahead of time, you may have a quiz on the purpose and procedure, or you may be required to do your lab work from the procedure that you wrote up.

All sections must be clearly labeled as follows. If you have no entry for one of the sections, please write NONE.

Name:

Date: date the lab was started

Partners:

Title of Experiment

Purpose: The purpose is a one or two sentence statement of why you are doing the lab. *E.g. We will observe several chemical reactions and classify them by type.*

Procedure: This is a concise summary of what you will do in the laboratory. DO NOT copy the instructions from the procedure handed out to you. Write it so that someone who is used to working in a chemical laboratory could do the lab accurately from your write-up. You may leave out explanatory statements. Be sure to include:

- names and amounts of chemicals
- formulas and reactions if you know them
- concentrations and amounts of solutions
- names and sizes of equipment
- times for heating, cooling, stirring, etc.

Also include any extraordinary safety precautions. (For example, strong acids must be handled and disposed of in a special way.)

Hypothesis: This is a statement of the expected result of the experiment.

Data Table: Copy this from the hand out or from the board. As time goes on you will design your own data table. Always use a ruler to draw lines. Include appropriate units. (Although you may want to copy your data from the chart or paper you originally used, you must also include the original data with the lab report when you hand it in.)

Calculations: When an experiment involves calculations, they are placed in a separate section right after the data table. Each step should be labeled and all answers shown with the correct units. Include graphs of data if these are appropriate.

For example:

mass of calcium carbonate =

$$\begin{aligned} & (\text{mass of beaker} + \text{CaCO}_3) - (\text{mass of beaker}) \\ & 43.65 \text{ g} - 41.59 \text{ g} = 2.06 \text{ g} \end{aligned}$$

Conclusion: One to three paragraphs summarizing the experiment. If questions are given to guide you, do not write the question number followed by an answer. Develop a clear, well-thought-out paragraph that analyzes the data, interprets the results and lets you apply what you learned in the laboratory, using your accumulated knowledge of chemistry.

In this section you may include a discussion of what went wrong (if you think it did) or what results you might question, and what this meant to the results you obtained.

DO NOT blow this off, it accounts for the major part of your lab report grade. Instead, objectively evaluate your observations and answer the questions concisely and precisely.

Note: The purpose of a lab experiment is to help you learn a concept, to experience something you have been studying. If you do the lab improperly and get “backwards” results or results from your neighbor, you have not helped yourself. Always check your procedure and hypothesis (not someone else’s) to see if your results make sense. If not, redo the lab. If you have real trouble, ask me. There is no credit given for saying “I didn’t understand.”

Discussion: This is your opportunity to tell me your personal impressions and feelings, either positive or negative, about this particular laboratory experience. What did you find rewarding or frustrating? You can make recommendations. If you have no comments, write “none” after the heading.

Remember: Do not forget to reference your initial data, etc. in the report.

Note: Some parts of your Lab Report grade depend upon following the guidelines as I have listed them above. The grade ends up being a combination of both form and substance. If, for example, you do not include a required section in your Lab Report you will be graded off for that even if the information is contained elsewhere within your report.