

Lab Report Guideline

Nothing in the report should ever be copied from the lab manual!

Things to remember when writing the lab report.

- Label all figures and tables with **Table #** or **Figure #** followed by a short description of the figure or table. The label will occur at the bottom of the figure or table
- Equations and reactions are also labeled with to the far right with number in parenthesis
- Refer to the figures, equations, etc in the report using the numbers associated with them
- Do not use we, I, me, him, her, they, us, you, our, the instructor, lab partner, people's names, etc. Neutral voice is to be used.
- If you did not perform a particular step in the procedure, do not include it in the report. If different reagents were used or other alterations/deviations from the procedure were used, be sure to change the procedure accordingly
- All data is presented in a table and the calculations are in an attached appendix
- The verbs should be in past tense because the lab has already taken place

Abstract

Summary of what was done, why, how, and results (in brief)

Must have:

- 1) Purpose of the experiment
- 2) Key result(s)
- 3) Major point(s) of discussion
- 4) Major conclusion

May include:

- 1) Brief method
- 2) Brief theory

Restrictions:

- 1) 200 words max

Introduction

Gives some background of the experiment, including the reactions involved. What did you do in lab and why? Give information on how to do the calculations, along with any necessary formulas.

Materials List

Provide a bulleted list of all equipment and chemicals used in the experiment.

Procedure

A summarized procedure that I could use to reproduce your experiment and results. Do not include sentences; such as, put on PPE, wash glass ware, weighed this, etc. Use the specific temperatures, volumes, and masses that you used in the procedure. Do not just use the generic ones. **This is not a bulleted list of steps.** It is a paragraph. The paragraph should be written in past tense.

Data

This is your raw data presented in a nice table, graph, and/or figure. Your raw data for this experiment should include the following in a table. This table includes all of the information that I would need to duplicate your calculations (ie starting masses, starting molarities, final volumes, final masses, percent yield, etc.). Be sure to include units and the proper number of significant figures.

Some of the answers from the data analysis questions at the end of the lab will go here.

Analysis/Discussion/Conclusion

This will be the hardest part of the report. First, discuss your results. Do they make sense? Why or why not? For this, you can look up literature values (from your textbook, the CRC, reputable websites, etc.) and compare to your results. Make sure to cite any sources when you do look up literature values. If there is any part of the procedure that should be done in a specific order, you may wish to discuss that. (Example: For the calorimetry lab, why should you get your calorimeter set up completely before weighing out your sample of unknown solid?)

Also list any errors—these should NOT be along the line of “I should have been more careful.” These should be things that you had no control over. Also, trace the effect of these errors on your results—are they lower or higher than they should be and why. The only exceptions to the “I should have been more careful” type of error are errors that actually occurred. Explain what happened and why, and the effect on your results. This is in ADDITION to discussing experimental errors.

Some of the answers from the data analysis questions at the end of the lab will go here.

Appendixes

Calculations or full page spectra are the main thing that goes in the appendix. When writing out the calculations, use the *Equation* function in Word (it is under the Document Elements tab). If you have more than one appendix; then, you would label each one starting with Appendix A and advancing alphabetically through the alphabet.

Citation/Bibliography

Be sure to sight your lab manual and any other website or book that you use when writing this. Use the MLA format for citing sources.