

Prelab and Lab Report Guidelines

Reporting scientific data is a skill you'll learn with practice. Be patient with yourself. Chemistry involves concise written communication (not an adjective-fest). Talk things out with me, your lab partner, and your peers. Also, get feedback as you work, rather than waiting until you're done. All labs must be performed and all reports must be submitted in order to pass the class.

Prelabs: These MUST be done in your lab notebook PRIOR to the lab period and they will be checked at the beginning of each lab session. Each should be clearly written in blue or black ink. Write hard enough so the duplicate copies are clear. Allow sufficient space. A prelab generally includes:

Title: The title of the experiment written clearly at the top.

Date: The date experimental data was recorded.

Definitions: A list of vocabulary words is given at the beginning of each lab. Give complete thoughts.

Prelab Questions: Prelab questions answered in complete sentences (as required by the lab manual; calculations should be written out clearly with units and correct significant figures).

Method: A flowchart or outline is generally the most helpful way to visualize the procedure and to keep you on-track. Make note of any deviations, omissions, or modifications that you make.

Tables: Data tables in which to record your data. You can't make up tables without carefully reading the lab. Leave adequate space to write legibly!!! Tables should include labels and units. Make sure you can record data with the appropriate number of significant figures, too. Any mistakes should be crossed out with a single line.

Initial and date the bottom of each page.

Summaries: Lab summaries present tables of results (values, errors, and primary sources of error), followed by sample calculations. Occasionally graphs will be required. Summaries must be completed no later than one week after the pertinent lab was performed. The final summary will be due sooner to insure it is graded by the final exam.

Reports (completed no later than one week after the lab was performed): Reports will be collected in your lab section. Each report should be typed or neatly hand-written (you can write it in your notebook). Figures and/or graphs generated by a program (e.g., Excel) can be taped or pasted in. You must do your own work (copying will result in a failing grade).

Abstract: This is a brief statement with a summary of procedure, results, and error. A few sentences should suffice.

Results: Numbered tables with titles are generally the clearest way to communicate your final results. Use enough space to make sure results are easy to find and read (label, sig. figs, etc.). Place a title above each table. Numbered graphs and/or figures may also be needed. Captions should be written under the figure. Graphs must have labeled axes (with units), and should be at least half-page in size.

Sample calculations: All calculations shown should include the general formula with symbols defined. Include units. Make sure answers contain the appropriate number of significant figures and final units. Number general equations sequentially so that you can refer to them in the discussion as required.

Review Questions: Answer all assigned review questions from the lab manual (in complete sentences and/or with complete calculations; all questions are assigned unless otherwise instructed).

Discussion/Conclusion: Critically analyze your results. What worked and why? What didn't work and why? Where did you encounter difficulties? How close were your results with the expected outcomes (based on calculations or literature values)? What were the primary sources of error (NOT "I did it wrong" or "I didn't do the calculations right"), and what was their impact on your data?

Language/Format: Any science writing should be done in third person, impersonal (observer) voice. For example, "A 10.00g sample of NaOH was titrated to the equivalence point with 24.5 mL of 0.345 M HCl", not "I titrated 10.00 g NaOH with 24.5 mL of 0.345 M HCl". Proofread (or have your partner proofread) your work to make sure it all makes sense, follows language guidelines, and is legible.