Introductory Chemistry Lab: Keeping a Laboratory Journal

The process of doing good science requires careful documentation of all laboratory work. One needs to faithfully record all data collected with correct significant figures and proper units as well as any observations noted. All calculations performed on data must be shown **with units**. To communicate results effectively one should tabulate the answers to calculations in a results section. Finally, one should write out what conclusion can be drawn as a result of one's work. The conclusion must answer the purpose of the lab.

The lab notebook is considered a legal document. So, all data must be legibly entered in ink *directly into the journal*. Skip a line if necessary to make your work more readable. The integrity of the information recorded must not be in question. This means that **you should never write down data first on a separate sheet of paper and then recopy it into your journal.**

Any errors that you make should be corrected by drawing a line through the mistake and writing the correct entry above or next to the error. You should **never erase errors, use correction fluids, or tear pages out of your journal.** Your lab journal is a work in progress, not a final report ready for publication, so you are bound to make some mistakes. Just be sure to properly correct your mistakes.

Setting up a Laboratory Notebook

The inside cover of your lab notebook should include the following information:

Your name and contact information so the notebook can be returned if lost
Your instructor's name, the course and section number, and your lab meeting time
A weekly updated Table of Contents indicating date, title, and page numbers for each week's lab report.

Laboratory Report Format

Your lab journal is designed to make a carbonless copy of each page. To prevent multiple pages from being used, **It is important that you insert the back cover under the copy sheet before writing on a page.** Begin every new page in your journal by filling out the information in the heading: experiment number, title, date, your name, name(s) of your lab partner(s), and the course and section number.

All laboratory reports should include the sections below:

Purpose: concise statement of the reason for the experiment.

Procedure: A clear, concise, step-by-step list of things you plan to do during the lab session.

Data: Record all pertinent information, measurements, and observations. Numerical data should be organized in tables. **All measurements should be to the correct number of significant figures and labeled with correct units.** Report any non-numerical experimental information in sentences.

Calculations: All calculations performed on data should be neatly and clearly shown in an organized fashion separate from the data. Use correct significant figures and unit labels throughout.

Results / data interpretation: Follow the format suggested in the laboratory handout. **All results should be reported to the correct number of significant figures and labeled with correct units.** Any graphs or charts that you need to prepare should be made in this section.

Conclusion: In this section summarize what you learned, determined, or discovered in the laboratory session based on the stated purpose. **You must answer the question posed in the purpose of the lab.**

Questions: Write complete sentence answers to the questions asked in the laboratory handout. Your response must include the question so that it is obvious to the reader what question you are attempting to answer.

Before leaving, tear out the original pages, staple and give to your instructor to grade. Save the copy in your journal as a record of your work