

Chemistry Lab Report – General Instructions

In a lab report, the **introduction** tells the reader what experiment was done and why. The introduction also provides any necessary background theory. Write the introduction such that a person who is not familiar with exact experiment, but has taken basic science, could understand.

- State the goal of the experiment
- Provide background theory
- Give a brief overview of your tasks and purpose in the experiment.
- No more than two or three paragraphs

The **procedure** section provides an exact description of what **you** have done in lab – not what the lab handout told you to do. The procedure is written with enough detail such that the reader could exactly repeat it.

- Write an account of what **YOU** did in the lab (not what the lab procedure says to do).
- Anyone should be able to reproduce **YOUR** results by following your procedure.

The **results** section provides the data and numbers collected in lab and calculated using lab data. For this report, your data include the yields of product and excess reagent from lab, the theoretical yield, along with the percent yield. The results section does NOT analyze data, it merely is a statement of the data collected. For this experiment, your results section will be quite simple. Do NOT show or describe extensive calculations unless they are groundbreaking, novel calculations. Calculations should be shown on a separate sheet.

- Report the values you sought in the experiment.
- Report values you acquired along the way needed to get your final result.
- Report on any pertinent observations (physical changes).
- Report critical equations used (if needed).
- Include a short description of how you used certain data to arrive at other pieces of information.
- Graphs and tables, compact, concise, and clear are the ideal way to deliver most of this information. Graphs and tables should be numbered consecutively. All results mentioned in a graph or table should be briefly summarized in a sentence or two.

In the **discussion** section, you will analyze your data. Compare your lab measurements to theoretical values. Do your measured values agree with theoretical values? If not, what happened in lab during *your* experiment that might have led to poor agreement. Do not be vague and do not use “human error.” This phrase is meaningless and vague. In some cases, you will also need to interpret your data – what are their implications?

- Explain what the data means – include relevant numerical values (like the key data points acquired).
- Draw conclusions based on experiment.
- Compare your values with theoretical values (if available).
- Discuss sources of error and how they might have influenced your results (**‘human error’** and **‘made us be wrong’** don’t qualify).

General Instructions

Format

- Typed using Times New Roman or similar font
- Size 12 font
- Double spaced
- There is no minimum page number or maximum page number. The lab report should be complete, but without extraneous material.
- The lab report is an **individual effort**. While you are allowed to discuss results with your lab partners, **each student is required to turn in their own lab report**.
- Each section should be labeled.
- Never use the phrase "Human Error" – it's too vague.

Verb Tense

The lab report should use a consistent verb tense. Generally passive voice is used. First person (I, we) and second person (you) should be avoided. Examples of passive vs. active voice are shown below.

Passive voice: Zn (s) and I₂ (s) **were added** to the 125 mL Erlenmeyer flask.

Active voice: We **added** the Zn (s) and I₂ (s) to the 125 mL Erlenmeyer flask.

How to form a proper paragraph

Each paragraph should be centered around one topic. Introduce this topic with a topic sentence. Do not place multiple unrelated ideas into one paragraph.