

Lab grading guide:

What I look for, in order of priorities (e.g. if you don't accomplish 2), I won't look at 3) and 4)):

1) **You have stated the question, collected data relevant to answer the question, and made a claim related to the question.**

If your lab report shows these three items, your grade will be at least in the **C range**. If the lab report lacks one or more of these items, **I will return it ungraded**, with a request to talk to me at office hours or after class.

2) You have made detailed **specific connections between your measurements and your claim**, arriving at an evidence-based conclusion.

If you are successful in drawing an evidence-based conclusion and communicating it to me, your grade will be at least in the **B range**. If you draw conclusions that are not based on evidence, this will lower your grade (you should write down your hunches in the Further questions section).

3) Your lab report is organized well: A) The **Protocol** section is as brief as possible but as detailed as necessary for someone else to repeat the experiment. B) The observations, measurements, photos, etc. are all in the **Observations** section of the lab report, in a form that is easy to understand. C) All interpretations of observations are in the **Claim and Evidence** section, referring back to the relevant observations. D) All hunches, hypotheses, connections with observations outside of the lab are in the **Further questions** section.

If your presentation of the experiment is well-organized on top of succeeding fully at 1) and 2), your grade will be in the **A range**.

4) Your **critical analysis of the entire experiment** shows which aspects of the question you answered, and points to a **specific follow-up experiment** to address either parts of the question that are still unanswered, or a new question that arose while you were doing or analyzing the experiment.

Succeeding at the last point on top of succeeding fully at 1), 2), and 3) means you have tackled the question in a scientific manner, and you will receive a **straight A**.

Additional grading criterion for labs you design yourself (follow-up labs):

0) You came up with a question and a set of experiments to answer the question before lab starts

Please check in with me at the beginning of lab (or earlier) to make sure I'm on board with your experimental design

Concerning 2) As you are just learning how to design an experiment, there might be times when your data does not allow you to make an evidence-based claim (in fact, this happens to even the most experienced researchers). As long as you discuss this clearly, it will not affect your grade negatively.