

AP Physics Lab Report Format

Title page: Give title of experiment, date of experiment, and the names of the scientists (that's you).

Purpose: State the experimental problem and the theory behind your experiment, making sure to define concepts clearly. This is also where you derive and explain any equations that you are using.

Equipment and Setup: List all equipment used in the lab and provide a diagram of the setup. Include any notes or special instructions for setting up the equipment.

Experimental Method: Describe the steps you took in painful detail. Never use the word "you". You're not writing instructions to other students. You are simply reporting the steps that you took in your experiment.

Data: Present your raw data in tabular form (no calculations or graphs in this section). Include the errors in your measurements.

Data Tables:

1. Each column/row should be labeled with the quantity being measured, symbol, and units in square brackets. Example: "Time, t [s]"
2. If multiple trials were attempted, be sure to label those as well.

Analysis: Present the results of your calculations and any graphs you've generated. Show an example calculation, making sure not to skip math steps. If you repeat the same calculation over and over for different trials, you do not need to show every calculation. Just the sample calculation will do. Be sure to include error propagation.

Graphs:

1. All graphs have a descriptive title.
2. Each axis must be labeled with the quantity, symbol, and units in square brackets.
3. Be sure to include a best-fit line.

Conclusions: Here is where you answer the question that the experiment was designed to answer, to the extent that you are able. You also analyze the factors that influenced your results. This is the "meat" of the lab, and it is the section that I will spend the most time reading.

Things to avoid:

1. You will lose points if your conclusions do not follow logically from your results. Do not say something just because that is what the textbook says. You got what you got, now stand by it.
2. If you get strange results but do not attempt to explain their cause, you will lose points. For example, if you say "We measured the free-fall acceleration, g , in the classroom to be 9810 m/s^2 " without providing a possible explanation for why the result was so strange, I will assume you did not notice how strange your result was (which tells me you're not paying attention so you won't notice when I butcher your grade).
3. When presenting possible causes for weird data or weird results, you will SO lose points if you use the words "human error". I will read this phrase as "I don't care enough about this experiment to actually think about what is going on in it, so please butcher my lab grade."
4. You will SO lose points if you say something like "there may have been a calculation error". I will read the phrase as "I really don't care enough about this experiment to go back and check my work, so please butcher my lab grade."