

Writing a Lab Report

Follow this guideline to write your reports!

Lab Report Outline

In order to report the results of your experiment, you will need to write a formal lab report. A lab report explains your experiment: what you were looking for, how you did it, what you found, and then your conclusions based on your results. Your “Lab Planning Sheet” is a great starting place for a lab report – a lot of the information on the “Lab Planning Sheet” is information that you will need to include in your report! A thorough lab report requires several different sections, all of which are explained below:

1. **Research Question:** what was the question that you were trying to answer? In your research question you should be specific – what *exactly* are you testing?
2. **Hypothesis:** what do you *think* will happen?
 - a. This step is very important! You need to make a prediction: “If this..., then this...”
 - b. **DON'T WORRY IF YOU FIND THAT YOUR HYPOTHESIS IS WRONG!!!!**
 - i. It's not important to be right, it's important to follow a *reliable, valid* process.
 - ii. If you're wrong, you'll just explain that at the end.
3. **Explain why you think your hypothesis is correct.**
 - a. You made this prediction – what are your reasons?
 - b. If you use outside sources, you should say what they are
4. **List your variables** – what are you testing? What are you measuring?
 - a. **Input** (Independent Variable)
 - b. **Output** (Dependent Variable)
 - c. **Controls** (What will stay the same?)
5. **Apparatus** – Equipment List
 - a. List everything that you will need in order to conduct your experiment – be specific!
 - b. It might make sense to make a diagram or a sketch to show the equipment visually.
6. **Method (Procedure)**
 - a. Step by step, explain how you conducted your experiment. Think about the following:
 - i. What equipment did I use?
 - ii. What did I do with the equipment?
 - iii. Why did I do that with the equipment?
 - iv. What steps did I take in order to conduct the experiment?
 - v. Could someone else follow this procedure in order to do the same experiment?
 - b. Be DETAILED – your experiment needs to be *repeatable*
7. **Results** – what happened in your experiment?
 - a. This should include data tables, graphs, and any other visual representation of your results
 - b. Remember UNITS when writing your results!
 - c. Include *observations* in your results – what did you see?
 - d. Explain what your results are and any calculations you performed
8. **Conclusion**
 - a. Explain what your results *mean*
 - i. What do your results tell you?
 - ii. Is there any significance to these results beyond your experiment?
 - b. Evaluate the method that you used – did it work?
 - c. Explain if there were any problems with the experiment
 - d. Explain how you might change the method in order to make it more effective
 - e. Identify any further experiments that might be done based on your results!