

UNIT  
1LESSON  
1.3*Tips for writing a good lab report***Format**

Most of your lab reports will have the following sections: problem, research, hypothesis and predictions, procedure, data and observations, analysis and conclusion. Each section should be clearly labeled (just like this sheet has clearly labeled sections).

**Problem**

Always write the problem in the form of a question. Most problems start with the word "How." Examples:

- How does hot water affect how long it takes a lifesaver to dissolve?
- How do different types of paper affect how far a paper airplane will fly?

You should also notice that the problems usually follows a "how does/do \_\_\_ affect \_\_\_" format. This is an easy way to write a problem! The first blank will always be your independent variable (the manipulative variable). The second blank will always be your dependent variable (the response variable).

**Research**

The research section may not always be included in your lab report. Your teacher will tell you when it is required. The research section will be a paragraph. It is a summary about what you have learned on the topic. This information can be found in your notes, your textbook, or other approved resources. Always write this in third person and do not use personal pronouns (I, you, we, s/he, they, etc.)

**Hypothesis**

Your hypothesis is your proposed solution to the problem. It is not a guess! You make your hypothesis from your research. When you write your hypothesis, always use an if/then format. Examples:

- If a lifesaver is put in hot water, then it will dissolve faster than a lifesaver in cold water.
- If a paper airplane is made out of card stock, then it will not fly as far as one made out of computer paper.

Sometimes you may use the if/then/because format. The "because" is used to support your hypothesis. Examples:

- If a lifesaver is put in hot water, then it will dissolve faster than a lifesaver in cold water because hot water makes the molecules move faster.

- If a paper airplane is made out of card stock, then it will not fly as far as one made out of computer paper because card stock is heavier and thicker than computer paper.

### **Procedure**

The procedure is your list of steps you follow to test your hypothesis. A good procedure has the following traits:

- Each step is numbered (1, 2, 3...)
- Each step begins with a verb (pour, measure, find) or adverb (slowly, carefully, etc.)
- Each step is an instruction that does not contain personal pronouns (I, you, they, etc.)
- Each step contains only one instruction. *It can include more but they must be related. See sample lab report.*

### **Data/Observations**

This section includes and qualitative or quantitative data or observations you make during your experiment. Your data must be recorded correctly. This means it includes labels, units, and anything else that makes it clear what the data is for. You will usually record your data in a table and a chart/graph. Your table must be drawn with straight lines and be labeled. Always label your data!

### **Analysis/Conclusion**

This section summarizes what happened in your experiment. This will be a paragraph that is written in third person without personal pronouns (I, you, we, etc.) Typically, you will restate the problem in the first sentence. Then, you will share your findings (your data and observations). Finally, you make your concluding statement (what did you find out). Here is an example.

*In this lab an experiment was done to test how different paper affects how far a paper airplane will fly. Two paper airplanes were made. One was made out of a heavier paper called card stock. The other was made out of lighter computer paper. Each plane was flown 5 times. Each time the distance it flew was recorded. The data showed that on average, the card stock plane flew 8 feet. The computer paper plane flew 15 feet. In conclusion, the data shows that a plane made out of heavier paper will not fly as far as a plane made out of lighter paper.*