

Expectations for Lab Procedures and Reports

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8th Grade Physical Science

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Sometimes, you will be given a procedure to follow (example: bouncy ball lab), and you only need to record data, graph, and write an analysis/conclusion.

Other times, as you gain more experience, you may get the opportunity to design your own experiment and write the procedures.

Components of a Lab Report

1) A Title – A brief statement that describes what the lab may be about.

- Example: “**E**ffect of **B**all **D**rop **H**eight on **B**ounce **H**eight”
- *Note that the first letter of each word are capitalized in the title.*

Components of a Lab Report

2) Introduction / Purpose:

- When you follow lab procedures given to you, you may or may not see a dedicated introduction section. However, when you write up your own procedures, you must have an introduction section for your reader.

In the introduction:

- Explain the purpose of the lab,
- State your hypothesis,
- Summarize how the experiment will be performed (remember in the bouncy ball lab, we had an introductory paragraph that stated how many times the ball will be dropped, from which heights, and what will be measured).
- Do not assume your reader is familiar with what you're doing, even if your reader is your teacher. Have enough information to give your reader a good overview.

Components of a Lab Report

3) Materials

- List every material and the quantity (could be weight, number of items, volume of a liquid, etc.) that you will use in your experiment.
- For example, in the bouncy ball lab, your materials were metric stick (state how many you used), a bouncy ball, and possibly masking tape.

Components of a Lab Report

4) Methods (procedure)

- Describe the steps you will follow to complete your investigation.
- Do not skip steps! Be detailed enough that someone else could read this section and duplicate your experiment.
- In the bouncy ball lab, the methods were given to you. We were told, to chose 4 drop heights in centimeters, and the repeat the ball drop three times from each height, then to average the data, graph the results, and write a conclusion.
- When you write your own procedures, you will write the instructions on how to perform that experiment.

Components of a Lab Report

5) Data

- Numerical information obtained during your investigation.
- In the bouncy ball lab, you recorded your drop heights, your bounce heights, and your averages.
- You're just stating numbers. You are not interpreting. what they mean or saying anything about errors you may have had.

Components of a Lab Report

5) Data continued:

- In a data table, you **HAVE TO HAVE THE UNITS!**
- Note that I have the unit in each column header. This tells me every data point in that column below the header will be a number in centimeters. Do not skip this...remember the data analysis errors we talked about in class, due to unit mistakes!

Drop Height (Centimeters)	Bounce Height (Centimeters)

Components of a Lab Report

6) Graphs

- If you have a graph, your graph must have a title! A title is short and descriptive.
- If you have a line graph or scatter plot, the easiest way to label your graph is to incorporate the names of both the independent and manipulated variables. *Graph titles are usually written as independent versus manipulated variable.*

Practice: Let's title our bouncy ball graph!

Components of a Lab Report

6) Graphs continued:

If you have a line or scatter plot:

- Each axis should be labeled.
- Each axis's label should include the units.

Practice: Let's label our X and Y axes for the bouncy ball lab.

Components of a Lab Report

7) Conclusion:

This section is at least one paragraph and must include the following:

- Restate the purpose of your experiment and restate your hypothesis.
 - Example: In this experiment, we wanted to examine the effect of temperature on plant growth. We hypothesized that.....
- Describe in words what the data mean.
- Talk about your data....do they make sense? Why or why not?
- Did you make any errors? If so, state and note what you may do differently next time.
- Do you data support or disprove your hypothesis?
- Make sure you use full sentences, proper grammar, spell check, and proofread.

Bouncy Ball Lab

- Your conclusion must be typed!
- Your conclusion must have a title:
 - Example: Conclusion – Effect of Ball Drop Height on Bounce Height.
- Your conclusion is your own work! You may talk with your partners, but you are each writing your own conclusions. Do NOT write one conclusion and have everyone in the group copy it. You will earn a zero on this section.
- Make sure your name and period are also typed on the conclusion page (top right-hand corner)
- Make sure you're meeting all the expectations for the conclusion (go back up one slide and look at the requirements again)
- Staple conclusion page to the lab packet and turn in tomorrow when you walk into the class (not at the end of class)!
- You may not print anything in my class. Please print at home, a friend's house, or use the computer lab (check available hours)