

## Scientific Method Lab Write-Up Guide

**Directions for use:** The following will help you prepare a well designed lab and lab write up. Your write-up should include the words in **bold print** in this handout. The other information will help explain the bolded part. Remember all formal lab write-ups should be written neatly in pen or typed.

**Name:**  
**Science Period #:**  
**Date:**

### Lab Title

The title should include the independent and dependent variable and be centered at the beginning of the lab below the heading.

**Problem:** Is a question that includes the independent and dependent variable. The problem is what the scientist is investigating. Usually a question.

**Hypothesis:** Is an educated guess, written in a complete sentence, that could solve the problem and be tested. It should include the independent and dependent variables.

**Materials List:** A list of equipment and materials that you need to do the lab.

**Procedure:** A series of numbered (1,2,3, ...) directions that explain how you will test your hypothesis and include:

1. Detailed steps on how you will do the experiment.
2. Explain during which parts of the lab to record data to your chart.
3. Indicates how many trials you will be testing for accurate results.

**Data and Observations:** Your results from the procedure should be recorded in some kind of data table. Each row and column should have a heading to show what information will go there. The example below is only a guide. Depending on your lab, yours may have more or less rows and columns. Additional observations should be listed as bulleted points.

Data Table Title

IV	DV			Average
	Trial 1	Trial 2	Trial 3	

Graph: Your graph, if needed, should include:

1. Graph title – include the iv and dv
2. label the x-axis (IV) and the Y-axis (DV):
  - a. Type of measurement/data category
  - b. The unit of measure in parenthesis
3. Evenly space the numbers on the X and Y axis
4. Correctly plot data points
5. Use a key if necessary, this isn't always needed
6. Add a single sentence summary below the graph that identifies any patterns you see.

## Student Notes

These notes are to help you think about or do a lab write-up.

- Underline the independent variable and circle the dependent variable in the problem.

- Use these variables to help you write your title, hypothesis, for setting up the data table, and when labeling your graph.

- When writing the hypothesis try using this:

**IF the (independent variable) does something, then the (dependent variable) will change somehow, because**

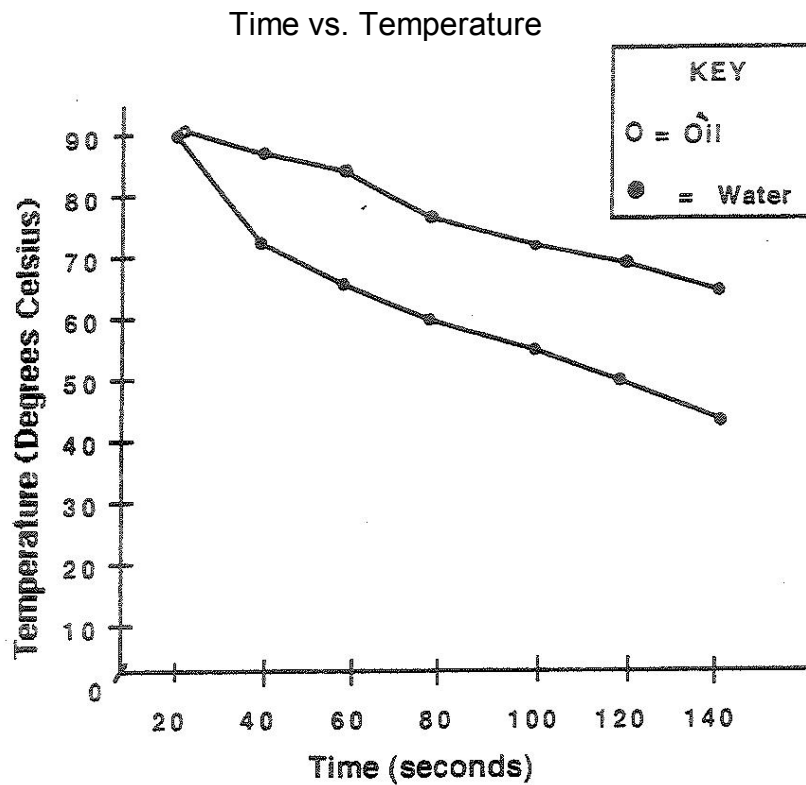
Does something & Change somehow words:

Increase  
Decrease  
Slow down  
Speed up  
Grows  
Shrinks

- When you write your procedure, write it as a numbered list of directions that tells someone how you will test your hypothesis. Be specific so that anyone who reads your procedure could do your lab step by step.

- The empty boxes in the data table are where you will record the measurements you are taking in a lab, like temperature. Don't forget to include which unit of measure goes with the numbers you are putting in the empty boxes (Like "C" for Celsius temperature scale)

The example below is only one type of graph, a line graph. Decide which one is best based on the data you collected.



**Graph Summary:** The timed cooling graph indicates that oil cools more slowly than water when both begin with the same starting temperature.

### Conclusion

### Student Notes

- The graph to the left has to have a key to tell you which data shows the cooling of water and which shows the cooling of oil. NOT all graphs need keys!

- Notice the X and Y axis are labeled and have the units of measurement in parenthesis.

- The graph summary statement to the left helps explain something specific about the graph. It should be short – one sentence.

- When you write your lab report use your best writing skills, explain yourself, and proofread it when you finish to make sure you have all the required parts.

