

Lab Report Form

Name _____-Key_____ Date_____ Period _____

Descriptive Title (1 pt): Short description of the experiment and/or results-no more than one sentence (does not have to be a complete sentence)

Purpose of the lab (1 pt):

Short description of why we are doing the experiment: why do/should we care?

Introduction:

1. Generate a *scientifically oriented question* (1 pt): Should be specific and testable with details about descriptions and how you will judge the outcome

2. Pose a *testable hypothesis* (if applicable, use **if/then/because** statement format) (1 pt): Follow instructions in question ☺

Methodology (materials & statistical method used) (3 pt):

3. Design the procedure for the investigation if procedure is NOT provided. **Note: Be descriptive so that others can replicate it: Be sure to record what you use, how much, how long, how many times...**

Identify (if applicable) (2 pts):

4. Dependent variable(s):

Independent variable:

Independent variables are factors that are changed by the experimenter and dependent variables are factors that are measured (not directly changed) by the experimenter and depend on the independent variable (ex. if testing the solubility of certain compounds in water, the compounds themselves are the independent variable and whether or not they dissolve is the dependent variable)

5. Identify/describe the constraints, replication (trials), sample size, controls (positive, negative, or baseline) (1 pt): Constants are things that are kept the same regardless of condition (ex. amount of water and compound used to see if the compound dissolves), replication is the number of times you tried each condition (number of trials), sample size is how many different things you measured for a given dependent/independent variable set (ex. how many things you tried-can also be number of people polled in a survey). Positive controls are things that you know will work (ex. table salt will dissolve in water). Negative controls are things you don't know will work (ex. steel will not dissolve in water). Baseline controls involve keeping conditions the same as you found them (ex. water by itself) to see if anything changes over time without any other influence.

Results:

6. Create data table and diagram to organize the data collected from the investigation. Label title, columns, rows, axes, & units.

Note: *If the space provided is insufficient use a separate sheet and attach it to this report.*

Data Table and/or diagram (3 pt): **diagram can be a graph or picture.** Data table should include appropriate labels and all numbers or observations collected in an experiment. Both should be included wherever possible.

Conclusion:

7. **Explain** if your hypothesis was supported or not supported. Use **quantitative evidence** from the data obtained from the experiment to **justify** your conclusion: (4 pts)

Using evidence from the results, describe how they relate to your hypothesis (supported=agrees with)

Discussion:

8. Provide at least **three** experimental errors, limitations, or flaws in the experiment: (1 pt)

Reasons that a given experiment may not have gone optimally-things that are outside (limitations) or within (flaws) the control of the experimenter. They not be clear until after the results are in (ex. did not have enough containers for each compound to be tested for solubility in water at the same time and did not have access to proper cleaning tools between trials)

9. Also, indicate **three** improvements that could be made to the experiment. (1 pt)

If you had the chance to do this experiment again, what would you change to make it better/get more information out of it?