

Lab Rubric

- _____ Overall format of paper is correct. Paper has appropriate scientific title. Margins are 1", paper is written in 3rd person past tense. Proper subheadings are used, paragraphs are indented, procedure #s are below 'P' in Procedure, text is double spaced, procedures are double spaced between each step, materials are properly formatted, capitalize each item, see chart in room for chemical names. Page number are in upper right corner. Cite information that is not common knowledge and any pictures you use that you did not take yourself (5)
- _____ Tables are formatted correctly (trial #s centered, measured #s right justified, correct headings in columns with appropriate units in heading)
Data tables show averages and standard deviations of data.
Table of observations has trial numbers centered and comments left justified.
All tables and graphics are anchored labeled and titled thoroughly and correctly. (5)
- _____ Opening paragraph in Data Analysis section includes what type of data was collected, quantitative or categorical? Discrete or continuous? State what your independent/explanatory and dependent/response variable are and what units they are measured in (this could be in Data Measured section too). State how you selected your kernels. (5)
- _____ Scientific and statistical formulas and equations are accurate and clear. All equations/formulas are labeled as a figure with an appropriate title. All variables are defined in the text below it. Show an example calculation with numbers plugged in and calculations are carried out correctly. In the text, include the trial number that corresponds to your sample calculation for the % change in mass. Correct measure of center is used for the % error calculation. And correct measure of spread, IQR or standard deviation, is used to measure variability (if data is symmetric you use_ &_ and if data is skewed use_ &_) (Calculate the Standard Deviation anyway using the table method just for practice and for learning Equation Editor)(10)
- _____ Graphs are appropriate/clear, axes and important values are labeled correctly with appropriate units (5)
- _____ Interpretation of data, trends, patterns, modeling etc. are explained thoroughly. Discuss shape, center and spread of the data as related to the experiment (compare shape, centers and spread if showing two or more distributions). Discuss spread of the distribution, what does this tell you about the experiment? What does the standard deviation tell you about your experiment? Discuss overlap of distributions if comparing two or more and what this tells you in relation to what you are trying to show (that mass is lost/gained after popping). Explain the percent error and what it tells you about your results. (10)
- _____ Conclusion is explained with scientific concepts, reasoning or laws and supported with statistical evidence. Restate your original/scientific hypothesis here and explain how your results support or refute it. **Use your percent error and standard deviation as evidence to support your claim about accepting or rejecting your hypothesis.**
A good conclusion should have 3 or 4 paragraphs: 1. Restate original hypothesis and give your results supported with statistical evidence. 2. Explain the results with scientific concepts, reasoning and/or laws. 3. Discuss errors and explain their effect on the outcome. 4. If you were to do the experiment again what would you do differently to make it better? (10)