

Names _____

Statistical Test(s) used: **DOE**

Math Teacher Rubric for Sophomore Research Data and Observations & Data Analysis and Interpretation Sections

We want your best work that shows time, effort, care, and energy has been spent perfecting this part of your paper.

___ (5 pts) **Data and Observations**
FOLLOW MANUAL
Should be easy to understand and follow.

Data Analysis & Interpretation*
FOLLOW THE MANUAL FOR YOUR PARTICULAR CHOICE OF STATISTICAL ANALYSIS.

___ (10 pts) **Introduction**
Brief description of project. Paragraph describing the method of collection, what data you are measuring, and the units used. Discuss why the data collected is reliable and valid (CRR). Also discuss what type of analysis was performed and why that analysis is appropriate.

___ (15 pts) **Data Analysis – DOE**
FOLLOW THE MANUAL (Appendix B, Part 1)
In particular,

- Good graphs with labels and scales marked
- Consistent uniform scales throughout (unless compelling reason)
- Comment on each factor/interaction in the context of experiment
- Correct interpretation of results in the context of your experiment

___ (15 pts) **Interpretation**
Summary of results of analysis based on DOE. (Now that you have determined all these effects and interactions...what's the bottom line for the reader?)

In the Data Analysis & Interpretation section you are to clearly state “what” the numbers mean. ALL OF THEM! The conclusion will detail “why” scientifically your results could/would/should have happened.

___ (5 pts) **Appendices/ Format**
If needed, sample calculations must FOLLOW MANUAL. See page 7 for a FULL example of a sample equation rather than page 10. Should be easy to understand and follow. Use first trial data to run sample calculations. Paper should follow proper MLA formatting, especially concerning figures and tables. No paragraph should begin with a figure/table – use an introductory sentence! (my pet peeve)

* Incorrect math or incorrect interpretation of results will result in a grade NO HIGHER than a C.

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___ (15 pts) **Descriptive and Another Statistical Treatment**
FOLLOW THE MANUAL (Appendix B, Part 2 or 3)

Descriptive

- Good plots with labels and scales marked
- Consistent uniform scales throughout (unless compelling reason)
- Special attention paid to discussion of trends and patterns

Another Statistical Treatment (t

- Show that the test being used is appropriate
- Discuss conditions/assumptions necessary
- Identify null and alternative hypotheses in the context of your experiment (i.e. words in sentences) and mathematical notation (identify your variables/subscripts)
- Screenshot of results and p-graph

___ (15 pts) **Interpretation**
Summary of results of analysis. (Now that you have run all these tests and p-values and hypotheses...what's the bottom line for the reader?)

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