

- Designing Experiments (2007d)-

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Total points = 42

Starting Question 1 point

_____ What question will this experiment answer? (**Cannot** be answered by yes or no.)

Variables 3 points

_____ Manipulated Variable (Independent)

_____ Responding Variable (Dependent)

_____ List the Controls [constants]: **≥ 4**

Hypothesis ... usually "if...then...because..." 4 points

_____ /2 Included manipulated and responding variable

_____ Included a rationale, (Why do you think the effect will take place?)

_____ Predicted a specific direction (increase, decrease, not just "change")

Materials 1 point

_____ List descriptions (**use quantities when appropriate**)

Procedures 4 points

_____ Numbered Steps

_____ Repetitions (minimum of three)

_____ Procedure complete (missing steps?)

_____ includes **≥** labeled diagram

Data Table 3 points

_____ Data table with manipulated variable and responding variable

_____ Left column is manipulated variable

_____ Labels must have units

Data Analysis 17 points

Graphs _____/2 **Graph at least minimum size, and correct type (line, bar, pie)**

_____ /4 **Label X & Y axis with name (what measured) & units (how measured)**

_____ /3 **Title includes both variables and describes relationship**

_____ /1 **Variables in correct location (manipulated on x axis)**

_____ /2 **Scales have even increments**

_____ /2 **Data filled the available space (vertical and horizontal)**

_____ /2 **Data plotted correctly (means, dot/circle, max., min.)**

_____ /2 **Neatness / straight lines**

Conclusion 4 points *...Requires at least three sentences*

_____ (1) Described your experiment.

_____ (2) Described how the manipulated variable affected the responding variable.

_____ **(3) Support your statements with specific data from YOUR experiment**

_____ (4) Restated hypothesis to explain that your data supported or disproved the hypothesis.

_____ Used formal nouns only; avoid "it," "that" etc.

Neatness 3 points

_____ **/3 VERY neat, ruled lines, & spelled correctly**