

Judge:

PROJECT# _____
Title:

Total:

/110

Level
SEVENTH

**Chandler Unified School District #80
Hamilton Invitational Science and Engineering Fair
CRITERIA FOR JUDGING PROJECTS**

Judges evaluate and focus on 1) what the student did in the current year; 2) how well the student followed the scientific methodologies; 3) the detail and accuracy of research as documented in the data book; and 4) whether experimental procedures were used in the best possible way. Judges should look for well thought-out research and scientific skill.

Total

/30

- I. SCIENTIFIC THOUGHT/EXPERIMENTAL DESIGN 30 Points**
- 0 1 2 3 4 5 -Is this a relevant question formed from observations?
 - 0 1 2 3 4 5 -Is the question testable through an experiment?
 - 0 1 2 3 4 5 -Hypothesis presented is based on direct observations/or research.
 - 0 1 2 3 4 5 -Is prior knowledge and multiple sources of research evident in student development of investigation?
 - 0 1 2 3 4 5 -Procedures clearly outline a controlled experiment that can be easily replicated and will prove/disprove hypothesis. (no personal pronouns)
 - 0 1 2 3 4 5 - Measurements are designed using appropriate tools and units of measure.

Total

/45

- II. DATA COLLECTION AND ANALYSIS 45 Points**
- 0 1 2 3 4 5 -Results are communicated accurately through appropriate charts, graphs or tables.
 - 0 1 2 3 4 5 -Is there evidence of use of a data log/notebook in this process?
 - 0 1 2 3 4 5 -Multiple trials have been used to collect data.
 - 0 1 2 3 4 5 -Data is analyzed to accept or reject the hypothesis.
 - 0 1 2 3 4 5 -Hypothesis is refined based on the data analysis
 - 0 1 2 3 4 5 - Other data sources (from previous investigations or research) are analyzed and compared to current results.
 - 0 1 2 3 4 5 - Validity and reliability of the results is determined and communicated.
 - 0 1 2 3 4 5 -Reasonableness of the results are evaluated. (Did the result make sense? Why?)
 - 0 1 2 3 4 5 - New questions are formulated based on the investigation.

Total

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- III. COMMUNICATION 20 points**
- 0 1 2 3 4 5 -Is there a sensible and easy progression through the display so that the average person can easily understand it?
 - 0 1 2 3 4 5 -Labels and descriptions are neat, grammatically correct and sufficiently explained.
 - 0 1 2 3 4 5 -Are required elements included in the display (title, hypothesis, materials & procedures, data/results, conclusions/future research, references (abstract required for 6th-12th grade)?
 - 0 1 2 3 4 5 - Appropriate graphs are represented for data (e.g. line graph, double bar graph, stem and leaf plot, histogram)

Total

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- IV. SCIENTIFIC INNOVATION 15 points**
- 0 1 2 3 4 5 -Are the use of materials and/or resources ingenious?
 - 0 1 2 3 4 5 -Does the experiment present a novel approach to the topic?
 - 0 1 2 3 4 5 -Does the experiment demonstrate critical and/or analytical thinking?

0= not presented 1=below standard 2= minimum standard 3=average 4=above standard
5=exceptional/outstanding