

SCIENCE FAIR RUBRIC (Experiment/Display Board/Oral Presentation)

Project Element	4 Advanced	3 Proficient	2 Competent	1 Developing	0 Insufficient evidence
Originality of Question	Original research.	Unique perspective on a traditional project.	Embellish an existing idea.	No originality (canned project).	
Appropriate Skill Level	Project is above SPA grade level expectation/meets high school expectations.	Project is at SPA grade level expectation.	Project is at grade level expectation.	Project is below grade level expectation.	
Testable Question (Problem)	Sophisticated question can be answered through comprehensive scientific method.	Question can be answered with student's application of scientific method.	Partially developed; does not address variables	Project is not a controlled experiment	
Hypothesis	Thoroughly developed; If... then...because... statement. (Pre-experiment research is evident.)	Sufficiently developed; If.. then..because.. statement.	Partially developed; Prediction made only.	Major flaws.	Not Present
Materials	Complete list that details how others could replicate the results with exact measurements in metric units.	Complete list	Complete list but does not use metric units.	Incomplete list	Not Present
Procedures / Organization	Easy to follow sequence of the scientific method. Language is clear and correct. Diagram included if appropriate. How data should be collected and what should be done with it is explicit.	Easy to follow; some language errors but overall project could be replicated following the directions.	Somewhat difficult to follow because of lapses of the sequence of the scientific method.	Difficult to follow; project could not be replicated.	Very incomplete directions or Not Present

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Trials	Experiment was performed with a minimum of 5 trials (or 10 if using living materials).	Experiment was performed 3 times (5 for living materials).	Experiment was performed 2 times (3 for living materials).	Experiment was performed once (less than 3 times for living materials).	
Variables	Manipulated variable has three levels, a control is evident, dependent variable is observed quantitatively.	MV has only 2 levels, a control is evident, dependent variable is observed quantitatively.	Less than three criteria from competent are present.	An adequate controlled experiment is not designed.	
Data	Data is organized appropriately. Data is within the range of experimental error. Outliers have been eliminated. Data has been averaged. Data is rounded to the correct level of precision.	Four of the five criteria from advanced.	Three of the five criteria from advanced.	Less than three criteria from advanced.	No Data Present
Graph	Variables on the correct axis. Range and interval is appropriate. Only averages are graphed. Type of graph is appropriate. Title is present. Graph is easy to interpret.	Five of the six criteria from advanced.	Four of the six criteria from advanced.	Less than four criteria from advanced.	No Graph Present

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Results/Analysis	Only averaged data is reported. If additional observations were made they are summarized. Graph trend is identified in a relationship statement.		Results include all trial data and/or results simply state the trend of the data and/or the graph trend is stated but not in a relationship between the variables statement.		No Results Present
Conclusion	A logical conclusion has been drawn from the data collected. Claim 1, Evidence 2, Reasoning 2.	CER 4/5	CER 3/5	CER 2/5	CER <2/5
Display Board (Visual)	Meets all proficiency level criteria; in addition, shows special use of appropriate technology or special artistic talents.	Project is visually appealing (labeled, organized, neat, colorful, concise, easy to see from a distance, layout is appropriate, minimal dead space, all items are backed and attached to the board appropriately, font is enlarged, data tables and graph is computer generated).	Display board is visually appealing, attempt to produce a quality display is evident, but lacks consistency in at least one area mentioned in the proficiency area.	Project is complete but lacks consistency in more than one area mentioned in the proficiency area.	No Display Board Presented
Pictures	Minimum of 3 pictures; pictures have the student in them as evidence of project completion, pictures show the experiment being performed, captions describe the picture.		Less than 3 pictures and/or student is not visible in them, and/or pictures do not show the experiment being performed and/or there are no captions.		There are no pictures/evidence the student performed the experiment.

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Display Board (Required Components)	Title, Problem, Hypothesis, Materials, Procedure, Data, Graph (s), Results, Conclusion, Abstract, Safety Sheet all present.	Missing one of the required components.	Missing 2 required components	Missing 3-4 required components.	Missing >4 required components.
Oral Presentation	Meets all proficiency level criteria, in addition, was dynamic and added a unique dimension to the presentation.	Explains topic in a clear, concise, well organized manner, reviews major points and give supporting detail, voice is clear and can be heard throughout the room; Maintains eye contact with audience, refers to the display board but does not read directly off of it, presentation appears rehearsed.	Explain project in a somewhat clear and organized manner; reviews major points and gives some detail with supportive direction from the teacher or note cards; voice volume and clarity erratic.	Explains topic in a somewhat disorganized or unclear manner; very little eye contact; reads exclusively from notes; voice cannot be heard clearly.	Not present for presentation.
Content Area Knowledge	Precise use of content area vocabulary; confidently explains how the manipulated variable affected the responding variable; responds appropriately and knowlegably to questions asked and elaborates on information presented.	Precise use of content area vocabulary; responds appropriately and knowlegable to questions asked.	Adequate use of conent area vocabulary; responds appropriately and knowlegable ot most questions asked.	Minimal use of content specific vocabulary; obvious difficulty responding appropriately or knowlegably to questions asked.	Evidence of very little science content learned by performing and researching this project.