

## Finals Scoring Rubric (Engineering)

### Poster Evaluation

Point Value:	2	1	0
Content	Includes the following sections: <ul style="list-style-type: none"> <li>• Exploration</li> <li>• Design Concepts</li> <li>• Engineering Design</li> <li>• Results (Figures &amp; Text)</li> <li>• Interpretation</li> <li>• Evaluation</li> </ul>	Includes four of these sections	Includes 3 or fewer of these sections
Overall Presentation	The overall poster meets the following criteria: <ul style="list-style-type: none"> <li>• The sections listed above are clearly labeled</li> <li>• The poster is neat and visually appealing</li> <li>• Text has been edited and is typo-free</li> </ul>	Meets two of these criteria	Meets one or fewer of these criteria
Defining Problem	Includes a problem that is specific, challenging and can be investigated given available resources	Includes a problem that is specific, but not challenging and/or includes a problem that is too broad	Does not include a problem or includes a problem that cannot be investigated
Exploration	The background section meets the following criteria: <ul style="list-style-type: none"> <li>• Explains why this problem is relevant</li> <li>• Written formally, in third person, and in past tense</li> </ul>	Meets one of these criteria	Does not meet either of these criteria
Design Concepts	The poster meets the following criteria: <ul style="list-style-type: none"> <li>• Discusses at least 3 variables that affect the problem</li> <li>• Proposes more than one potential solution to the problem</li> <li>• Clearly indicates which solution is addressed by this project</li> </ul>	Meets two of these criteria	Meets one or fewer of these criteria
Engineering Design	The summary of experimental design meets the following criteria: <ul style="list-style-type: none"> <li>• Clearly lays out design specifications in paragraph format</li> <li>• Clearly defines how the design will be tested including what and how the results will be evaluated</li> <li>• Written formally, in third person, and in past tense</li> </ul>	Design process laid out in step-by-step format (numbered list)  OR  Meets two of these criteria	Meets one or fewer of these criteria
Results (Figures & Tables)	Poster includes figures and/or tables that meet the following criteria: <ul style="list-style-type: none"> <li>• Includes quantitative data</li> <li>• Data is displayed in the appropriate format (table vs. graph, bar graph vs. line graph)</li> <li>• Numbered sequentially and accompanied by descriptive title</li> <li>• Axes, columns and rows clearly labeled (including units)</li> </ul>	Meets three of these criteria	Meets two or fewer of these criteria
Results (Text)	Poster includes a written summary of the data that meets the following criteria: <ul style="list-style-type: none"> <li>• Includes quantitative data</li> <li>• Refers to all figures and tables by number</li> <li>• Summarizes raw data points. Highlights trends, but does not interpret</li> <li>• Written formally, in third person, and in past tense</li> </ul>	Meets three of these criteria	Meets two or fewer of these criteria
Interpretation	Poster includes a discussion that meets the following criteria: <ul style="list-style-type: none"> <li>• Refers to all figures and tables by number</li> <li>• Interprets results and trends in the data</li> <li>• Written formally, in third person, and in past tense</li> </ul>	Meets two of these criteria	Meets one or fewer of these criteria
Evaluation	Uses data and logic to explain whether the product solved the problem and if the solution is feasible	Addresses the problem, but logic is unclear and/or does not address feasibility	Does not explain if the solution solved the problem
Future Plans	As part of the conclusion, the author addressed: <ul style="list-style-type: none"> <li>• Potential sources of error and proposed solutions</li> <li>• Weaknesses and trade-offs in design</li> <li>• Relevance (application, policy decisions, satiation of curiosity, etc.)</li> <li>• Future areas of research</li> </ul>	Meets three of these criteria	Meets two or fewer of these criteria

Accuracy	The facts and concepts presented in this poster are scientifically accurate.	This poster includes 1-3 scientific inaccuracies.	This poster includes more than 3 scientific inaccuracies
Creativity (Novelty)	Project is unique and addresses concepts that may not have been researched in the past	Project is well done, but repeats previous research	Project has been done many times before
Creativity (Technique)	Shows innovation in development of engineering design	The techniques used in this project are not often seen in science fair projects, but would probably not be considered innovative	Standard techniques are used in this project
Creativity (Interpretation)	Displays data in a unique and visually compelling format	Graphics are clear and useful to the project, but are not presented in unique or visually compelling way	Data is presented in a standard form. Graphics are not visually compelling and may not be clear.
Creativity (Conclusion)	Author makes a unique and justified connections in their interpretation of the data. This is a new take on this research.	Author provides some unique points of insight, but does not fully explain or justify them.	The authors interpretation of this data is as expected. No unique insight provided.

### Student Presentation Evaluation

Point Value:	4	2	0
Knowledge	Student exhibited thorough knowledge of science relevant to their project	Student had some knowledge of science related to their project	Student had little knowledge of the science related to their project
Understanding	Student fully understood the results of the experiment and was able to explain the logic behind their interpretation	Student exhibited some understanding of their results and/or provided a somewhat logical interpretation	Student was unable to clearly explain the results of the experiment
Use of poster in presentation	Student indicated (but did not read) the graphics on the poster throughout their explanation	Student did not indicate the graphics on the poster	Student read the poster to the audience
Answering Questions	Student provided clear, concise and thoughtful responses to <u>ALL</u> questions	Student provided clear, concise and thoughtful responses to <u>SOME</u> questions	Student was unable to answer most questions
Delivery	Student met the following criteria during presentation: <ul style="list-style-type: none"> <li>made eye contact with audience</li> <li>was easily heard</li> <li>exhibited professional behavior (no gum chewing, swearing, etc.)</li> <li>was a dynamic and enthusiastic speaker</li> </ul>	Student meets 3 of these criteria	Student 2 or fewer of these criteria