



## Regional Science Fair Engineering Judging Rubric\*

<b>Student's Name:</b>	<b>Grade Level:</b>				
<b>Project Category:</b>	<b>Date:</b>				
<b>Project Title:</b>	<b>Project #:</b>				
<b>Judge's Name:</b>	<b>Final Score:</b>				
	Superior	Above Average	Average	Below Average	Little or No Evidence
<b>Creative Ability</b>					
1. The topic idea is original and/or innovative.					
2. The approach to solving the problem is creative.					
3. The research helped answer a question in a creative way.					
4. The overall display significantly contributes to the project (i.e., grammar, spelling, formatting, etc. do not significantly detract from its meaning).					
<b>Experimental Design Process</b>					
1. Defined the engineering problem to be solved, identifying the need, the target user, and the justification. [Who] needs [what] because [why].					
2. Accessed a minimum of three, age-appropriate sources for background research, addressing all important facets of the project. Studied and learned from existing solutions or attempted solutions as appropriate.					
3. Specified design requirements that state the important characteristics the solution must meet to succeed. Kept the target user in mind when identifying the requirements.					
4. Created alternative solutions to the problem.					
5. Chose the best solution from the alternatives, justifying how the solution meets the design requirements (Outstanding teams might use a decision matrix).					
6. Developed the solution, refining and improving it during the construction of a prototype.					
7. Used information collected during the testing of the prototype to improve the product. Redesigned and retested the product until the design goal and design requirements were met (e.g., through debugging, optimizing).					
8. Included a clear visual representation of data collected/observations made (e.g., graphs, charts, pictures, diagrams).					

	Superior	Above Average	Average	Below Average	Little or No Evidence
9. Clear analysis of qualitative and quantitative data utilizing methods such as the calculation of mean or T-test, and /or the examination of possible patterns, themes, or relationships.					
<b>Product</b>					
1. The team's solution represents significant improvements over existing products/solutions. The product is a creative solution to the problem.					
2. The final product meets universal design criteria, such as elegance, robustness, aesthetics, and cost effectiveness. The product is safe to build, use, store, and dispose of.					
3. The final product is useful to the target user. The product fills a meaningful need.					
<b>Skill</b>					
1. The project appears to represent the student's own work (i.e., the project is not a reflection of the work of an adult with the students offering minimal input).					
2. Necessary scientific skill is demonstrated by the use of appropriate equipment and other materials. This includes appropriate safety precautions.					
<b>Presentation/Interview</b>					
1. The presentation/interview communicates both the merits of the final product and the process to reach the final product.					
2. The student(s) communicates effectively about the project (e.g., provides logical responses to questions and can defend the design choices and conclusions that they made).					
3. The design notebook provides ample evidence of how the engineering process was used throughout the project.					
<b>Borg Warner Award</b>					
Do you recommend this project for consideration of the Borg Warner Engineering Award?	Yes		No		
Final Comments/Recommendations for Improvement:					