

# SIM Science & Engineering Fair

## JUDGING CRITERIA

<b>Science Project Judging Criteria</b>	<b>Engineering Project Judging Criteria</b>
<p><b>Research Question (10 pts.)</b></p> <ul style="list-style-type: none"> <li>a. Clear and focused purpose</li> <li>b. Identifies contribution to field of study</li> <li>c. Testable using scientific methods</li> </ul>	<p><b>Research Question (10 pts.)</b></p> <ul style="list-style-type: none"> <li>a. Description of a practical need or problem to be solved</li> <li>b. Definition of criteria for proposed solution</li> <li>c. Explanation of constraints</li> </ul>
<p><b>Design and Methodology (25 pts.)</b></p> <ul style="list-style-type: none"> <li>a. Well-designed plan and data collection methods</li> <li>b. Variables and controls defined, appropriate and complete</li> <li>c. Degree of independence in conducting project</li> <li>d. Recognition of potential impact in science, society and/or economics</li> <li>e. Quality of ideas for further research</li> </ul>	<p><b>Design and Methodology (25 pts.)</b></p> <ul style="list-style-type: none"> <li>a. Exploration of alternatives to answer need or problem</li> <li>b. Identification of a solution</li> <li>c. Development of a prototype/model</li> <li>d. Degree of independence in conducting project</li> <li>e. Recognition of potential impact in science, society and/or economics</li> <li>f. Quality of ideas for further research</li> </ul>
<p><b>Execution: Data Collection, Analysis and Interpretation (30 pts.)</b></p> <ul style="list-style-type: none"> <li>a. Systematic data collection and analysis</li> <li>b. Reproducibility of results</li> <li>c. Appropriate application of mathematical and statistical methods</li> <li>d. Sufficient data collected to support interpretation and conclusions</li> <li>e. Understanding of basic science relevant to project</li> <li>f. Understanding interpretation and limitations of results and conclusions</li> </ul>	<p><b>Execution: Construction and Testing (30 pts.)</b></p> <ul style="list-style-type: none"> <li>a. Prototype demonstrates intended design</li> <li>b. Prototype has been tested in multiple conditions/trials</li> <li>c. Prototype demonstrates engineering skill and completeness</li> <li>d. Understanding of basic science relevant to project</li> <li>e. Understanding interpretation and limitations of results and conclusions</li> </ul>
<p><b>Creativity (20 pts.)</b></p> <ul style="list-style-type: none"> <li>a. Project demonstrates significant creativity in one or more of the above criteria</li> </ul>	<p><b>Creativity (20 pts.)</b></p> <ul style="list-style-type: none"> <li>a. Project demonstrates significant creativity in one or more of the above criteria</li> </ul>
<p><b>Presentation Display (15 pts.)</b></p> <ul style="list-style-type: none"> <li>a. Logical organization of material</li> <li>b. Clarity of graphics and legends</li> <li>c. Supporting documentation displayed</li> </ul>	<p><b>Presentation Display (15 pts.)</b></p> <ul style="list-style-type: none"> <li>a. Logical organization of material</li> <li>b. Clarity of graphics and legends</li> <li>c. Supporting documentation displayed</li> </ul>