

Criteria	What to Look for While Judging – Scientific Research Projects	Points
<b>Scientific Thought</b>	<b>Scientific Thought:</b> <ol style="list-style-type: none"> <li>1. Question or problem was stated clearly and unambiguously</li> <li>2. The procedure/methods were well thought out and organized</li> <li>3. Data and results were presented using quantifiable numbers and statistical analysis</li> <li>4. Lab notebook/logbook is complete with original data, dates, &amp; notes</li> <li>5. Variables &amp; Controls are clearly recognized and used appropriately</li> <li>6. The student/team understands their project's tie to related research</li> </ol>	<b>30</b>
<b>Creative Ability</b>	<ol style="list-style-type: none"> <li>1. The project showed creative ability and originality in: <ul style="list-style-type: none"> <li>• The question asked</li> <li>• The approach to the problem</li> <li>• The interpretation of the data</li> </ul> </li> </ol>	<b>25</b>
<b>Thoroughness</b>	<ol style="list-style-type: none"> <li>1. Adequate data were collected to support the conclusions</li> <li>2. Conclusions are based upon multiple trials, replications and/or test subjects</li> <li>3. The student/team is aware of other theories or approaches</li> <li>4. Conclusions and/or data analysis describe possible errors or flaws</li> <li>5. Background research is related to the project and summarized by the student</li> <li>6. References are identified</li> <li>7. The student/students allowed themselves enough time to perform a thorough investigation</li> <li>8. TEAMS ONLY: Each member of the team has made a clear, outlined contribution to the project and is familiar with all aspects of the project</li> </ol>	<b>20</b>
<b>Skill</b>	<ol style="list-style-type: none"> <li>1. The student/team demonstrated that they have the required laboratory, computation, observational and design skills necessary to have completed their project</li> <li>2. The student/team may have received help and assistance but the completed project reflects their work and understanding</li> <li>3. The written material reflects the student/team's understanding and research</li> </ol>	<b>15</b>
<b>Clarity</b>	<ol style="list-style-type: none"> <li>1. The important phases of the project are presented in an orderly manner</li> <li>2. There are few or no spelling and grammatical errors</li> <li>3. Data and results are presented clearly</li> </ol>	<b>10</b>
<b>Total Points Possible</b>		<b>100</b>

<b>Criteria</b>	<b>What to Look for While Judging – Engineering Projects</b>	<b>Points</b>
<b>Problem Identification</b>	<ol style="list-style-type: none"> <li>1. Several questions are asked that help define the problem</li> <li>2. Specifications and Constraints have been identified</li> <li>3. Research has identified previous solutions to the stated</li> </ol>	<b>20</b>
<b>Planning</b>	<ol style="list-style-type: none"> <li>1. Several sketches of possible solutions are present</li> <li>2. The design process shows an iterative and systematic approach that is clear and logical</li> <li>3. A final drawing of a prototype is present that includes: multiple views, dimensions, parts list, and tools</li> <li>4. Assembly instructions are present</li> </ol>	<b>25</b>
<b>Prototyping</b>	<ol style="list-style-type: none"> <li>1. A prototype built from the final plans is present</li> <li>2. The prototype closely matches the plans</li> <li>3. Prototype has been used to test the feasibility of the proposed solution</li> </ol>	<b>20</b>
<b>Analysis</b>	<ol style="list-style-type: none"> <li>1. Data is present and has been used to support or dispute the effectiveness of the prototype as a solution to the stated problem</li> <li>2. Graphs or charts are present that show the collected data</li> <li>3. Data is used to propose improvements or changes to the prototype</li> <li>4. Improvements to the prototype have been suggested that reflect the data obtained while testing</li> </ol>	<b>20</b>
<b>Communication</b>	<ol style="list-style-type: none"> <li>1. The design process has been documented in a journal or notebook and that documentation is present</li> <li>2. Data has been used to provide evidence that the solution to the problem has satisfied the set criteria and specifications</li> <li>3. Evidence is used to support the merits of the design solution</li> <li>4. All information is presented in a clear, concise, and neat format</li> <li>5. Student is able to engage in effective conversation regarding their design process</li> <li>6. TEAMS ONLY: Each member of the team has made a clear, outlined contribution to the project</li> </ol>	<b>15</b>
<b>Total Points Possible</b>		<b>100</b>