

# STEM Project Judges Scoring Guide (Grades 6-12)

Project Title: \_\_\_\_\_

Student(s): \_\_\_\_\_

Grade Level: \_\_\_\_\_ Category: \_\_\_\_\_

School: \_\_\_\_\_ Teacher/Coordinator: \_\_\_\_\_

Scientific Investigation Criteria	Engineering Design Criteria	Score
<b>Ask Question</b> <ul style="list-style-type: none"> <li>❖ Clear measurable/testable question investigated</li> <li>❖ Hypothesis based on scientific principles</li> </ul>	<b>Define Problem</b> <ul style="list-style-type: none"> <li>❖ Problem to be solved clearly described</li> <li>❖ Logical claim focused on the best solution (criteria for success)</li> </ul>	<b>1 2 3 4</b>
<b>Obtain and Evaluate Information (Research)</b> <ul style="list-style-type: none"> <li>❖ Relevant, credible and unbiased resources gathered, read, and synthesized to support claim</li> </ul>	<b>Obtain and Evaluate Information (Research)</b> <ul style="list-style-type: none"> <li>❖ Relevant, credible, and unbiased resources gathered, read, and synthesized to support claim</li> </ul>	<b>1 2 3 4</b>
<b>Plan Investigation Design</b> <ul style="list-style-type: none"> <li>❖ Plan for procedure logically organized</li> <li>❖ Variables correctly identified</li> </ul>	<b>Plan for Best Solution Design</b> <ul style="list-style-type: none"> <li>❖ Plan for prototype logically organized</li> <li>❖ Limitations/constraints considered</li> </ul>	<b>1 2 3 4</b>
<b>Carry Out Investigation Design Plan</b> <ul style="list-style-type: none"> <li>❖ Multiple trials conducted</li> <li>❖ Measurable data collected from trials</li> <li>❖ Relationships between variables specified</li> </ul>	<b>Carry Out Solution Design Plan</b> <ul style="list-style-type: none"> <li>❖ Prototype created for best possible solution</li> <li>❖ Multiple trials conducted to test prototype for intended purpose</li> <li>❖ Measurable data collected from trials</li> <li>❖ Solution redesigned as needed</li> </ul>	<b>1 2 3 4</b>
<b>Use Mathematics and Computational Thinking to Analyze and Interpret Data</b> <ul style="list-style-type: none"> <li>❖ Data organized in tables and graphs</li> <li>❖ Patterns in data explained to make sense of phenomenon</li> </ul>	<b>Use Mathematics and Computational Thinking to Analyze and Interpret Data</b> <ul style="list-style-type: none"> <li>❖ Data organized in tables and/or graphs</li> <li>❖ Patterns in data used to redesign a solution</li> </ul>	<b>1 2 3 4</b>
<b>Construct Evidence-Based Explanation (Conclusion)</b> <ul style="list-style-type: none"> <li>❖ Data and research linked to claim/hypothesis</li> </ul>	<b>Construct Evidence-Based Explanation (Conclusion)</b> <ul style="list-style-type: none"> <li>❖ Data and research linked to claim</li> </ul>	<b>1 2 3 4</b>
<p style="text-align: center;"><b>Construct Evidence-Based Explanation (Judge Interview)</b></p> <p><b>Discussion Points (not limited to):</b></p> <ul style="list-style-type: none"> <li>o Relevance of question</li> <li>o Challenges in carrying out plan</li> <li>o Solutions to challenges</li> <li>o Quality ideas for further exploration</li> </ul>	<p style="text-align: center;"><b>Construct Evidence-Based Explanation (Judge Interview)</b></p> <p><b>Discussion Points (not limited to):</b></p> <ul style="list-style-type: none"> <li>o Relevance of problem and solution</li> <li>o Challenges with prototype limitations</li> <li>o Solutions to challenges</li> <li>o Quality ideas presented to improve design</li> </ul>	<b>1 2 3 4</b>
<b>Total Score</b>		<b>/28</b>
<b>Scoring Guide Key</b> <b>1= Minimal</b> <b>2= Limited</b> <b>3= Sufficient</b> <b>4= Thorough</b>		

# Judge Comments

Project Title: \_\_\_\_\_

Student(s): \_\_\_\_\_

Grade Level: \_\_\_\_\_ Category: \_\_\_\_\_

School: \_\_\_\_\_ Teacher/Coordinator: \_\_\_\_\_

Areas of Strength:

Idea(s) for Improvement: