STL SCIENCE FAIR
Supporting the Advancement of Youth Scientists
A Program of the Academy of Science of St. Louis

Senior Honors Division
(R1) INTERVIEW - MAKER PROJECTS

Criteria	Category Weight	5 - Excellent	4 - Good	3 - Satisfactory	2 - Needs Improvement	1 - Poor
Research Question (5 pts)	x2	• Clearly describes practical problem. • Well-defined criteria and constraints.	• Mostly clear problem description. • Criteria and constraints mostly defined.	• Unclear problem description or impractical problem description. • Some criteria and constraints defined.	• Vague problem description. • Incomplete criteria and constraints defined.	• Problem description is unclear or unfocused. • No clear constraints and criteria.
Design & Methodology (15 pts)	x4	• Through exploration of alternative and existing solutions. • Clear solution defined. • Detailed prototype, proof of concept, or model developed.	• Adequate exploration of alternative and existing solutions. • Solution mostly identified. • Prototype or Proof of Concept developed but missing details that do not impact understanding.	• Adequate exploration of alternative OR existing solutions. • Solution identified. • Prototype developed but missing details that impact understanding.	• Limited exploration of alternatives and existing solutions. • Unclear solution identified. • Prototype incomplete.	• No exploration of alternatives or existing solutions. • Prototype missing or non-functional.

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Execution: Construction and Testing (15 pts)	x4	• Prototype meets intended design. • Design is tested under multiple conditions. • Solution demonstrates engineering skill. • Sufficient data collected to support success of the prototype.	• Prototype does not move beyond proof of concept. OR • Prototype mostly meets intended design. • Design is tested in some similar conditions • Solution demonstrates some engineering skill. • Data collected contained a significant number of outliers that support the success of the prototype.	• Proof of concept not related to identified solution. OR • Prototype made independently of design. • Limited testing. • Solution demonstrates basic engineering skill. • Insufficient data collected to support the success of the prototype.	• Prototype poorly meets designs. • Minimal testing. • Limited engineering skill shown. • Insufficient data collected to support the success of the prototype.	• Prototype does not meet design OR is missing. • No testing done on the prototype. • Lacks engineering skill.
Creativity & Potential Impact (10 pts)	x3	• Demonstrates significant creativity in project design or execution. • Clearly recognizes impact or potential impact in the field of study.	• Demonstrates moderate creativity in project design or execution. • Mostly recognizes impact or potential impact in the field of study.	• Some creativity attempted but not evident in final project design and execution. • Limited discussion of potential impact in the field of study.	• Minimal creativity in project design or execution. • Minimal recognition of impact or potential impact in the field of study.	• No creativity, product design and execution is a reproduction of existing experimental methods. • No recognition of impact in the field of study.
Presentation: Display (10 pts)	x2	• Project information is presented in a clear and logical way.	• Project information is mostly logical and clear.	• Project information is adequately organized.	• Project information is poorly organized or unclear. • Graphs, charts, pictures have	• Project information is disorganized, or has parts missing.

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		• Graphs, charts, pictures, and labels are clear and helpful. • Supporting documents, visuals or models are relevant to the project and contribute to understanding. •	• Most graphs, charts, pictures and labels make sense. • Supporting documents, visuals, or models are relevant to the project but do not contribute to understanding.	• Some graphs, charts, pictures are missing labels. • Supporting documents, visuals, or models are somewhat relevant to the project and do not contribute to overall understanding.	unclear labels or are not connected to research. • Supporting documents, visuals, or models lack any relevance to the model and contract from overall understanding.	• Labels display incorrect information. • Supporting documents, visuals, or models are not relevant to the project or the science.
Presentation: Interview (25 pts)	x5	• Answers questions clearly showing a complete understanding of the science behind the project. • Explains the results, conclusions, and any limitations of the investigation. • Shows ownership of the work and can explain how the project was completed. *Acknowledgement given to any QS or RRI that assisted on the project.* • Explains why the project is important and who might benefit from it.	• Answers questions clearly showing a decent understanding of the science behind the project. • Explains the results, conclusions, but does not address the limitations of the investigation. • Shows ownership of the work and can explain how the project was completed. • Mostly explains why the project is important and who might benefit from it. • Shares ideas for how the project could be	• Answers questions showing a moderate understanding of the science behind the project. • Explains the results but does not address the conclusions or limitations of the investigation. • Can explain how much of the project was completed. *<u>Acknowledgement NOT given</u> to any QS or RRI that assisted on the project.* • Explains why the project is important but not who might benefit from it.	• Answers questions showing a basic understanding of the science behind the project. • Explains the data collected but not the results, conclusions or limitations of the investigation. • Can explain some of how the project was completed but with significant methodology gaps. • Incomplete explanation of why the project is important or who might benefit from it.	• Answers questions showing a basic understanding of the general science behind the project. • Explains the data collected but not the results, conclusions or limitations of the investigation. • Explanation of how the project was completed contains gaps significant enough to interfere with understanding. • Incorrect explanation of why the project is important or who might benefit from it.

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		• Shares thoughtful ideas for future research or improvements.	improved if repeated.	• Shares sources of experimental error instead of future directions for the project.	• Shares sources of experimental error instead of future directions for the project.	• No discussion of future directions for research.

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