STEM Project Criteria for Success (Grades 6-12)

Project Title:_____
Name: _____
Category: _____

Scientific Investigation Criteria	Engineering Design Criteria
Ask a Question ❑ Clear measurable/testable question investigated ❑ Hypothesis based on scientific principles	**Define a Problem** ❑ Problem to be solved clearly described ❑ Logical claim focused on the best solution (criteria for success)
Obtain and Evaluate Information (Research) ❑ Relevant, credible and unbiased resources gathered, read, and synthesized to support claim	**Obtain and Evaluate Information (Research)** ❑ Relevant, credible, and unbiased resources gathered, read, and synthesized to support claim
Plan/Design Investigation ❑ Plan for procedure logically organized ❑ Variables correctly identified	**Plan Best Solution Design** ❑ Plan for prototype logically organized ❑ Limitations/constraints considered
Carry Out Investigation Design Plan ❑ Multiple trials conducted ❑ Measurable data collected from trials ❑ Relationships between variables specified	**Carry Out Solution Design Plan** ❑ Prototype created for best possible solution ❑ Multiple trials conducted to test prototype for intended purpose ❑ Measurable data collected from trials ❑ Solution redesigned as needed
Use Mathematics and Computational Thinking to Analyze and Interpret Data ❑ Data organized in tables and graphs ❑ Patterns in data explained to make sense of phenomenon	**Use Mathematics and Computational Thinking to Analyze and Interpret Data** ❑ Data organized in tables and/or graphs ❑ Patterns in data used to redesign a solution
Construct Evidence-Based Explanation (Conclusion) ❑ Data and research linked to claim/hypothesis	**Construct Evidence-Based Explanation (Conclusion)** ❑ Data and research linked to claim
Construct Evidence-Based Explanation ❑ Relevance of question ❑ Challenges in carrying out investigation ❑ Solutions to challenges ❑ Quality ideas for further exploration	**Construct Evidence-Based Explanation** ❑ Relevance of problem and solution ❑ Challenges with prototype limitations ❑ Solutions to challenges ❑ Quality ideas presented to improve design