Brookhaven National Laboratory

Elementary School Science Fair
JUDGING RUBRIC
last updated 11/22/21

Criteria	4	3	2	1
Originality of Question	Original idea going beyond a traditional or existing idea.	Different perspective on a traditional idea.	Expanding an existing idea.	No originality.
Hypothesis/ Define the Problem	Thoroughly developed with reasoning. Ex: "I think…because…" or a clearly defined problem to be solved or question to be answered.	Sufficiently developed.	Partially developed.	Major flaws.
Procedures/ Engineering Design Solutions	Easy to follow sequence of the Scientific Method or Engineering Design Process.	Somewhat easy to follow sequence of the Scientific Method or Engineering Design Process.	Somewhat difficult to follow because of lapses in the sequence of the Scientific Method or Engineering Design Process.	Difficult to follow, with no sequence of the Scientific Method or Engineering Design Process.
Investigation Trials	Experiment was performed 3 or more times and/or sample size was exceptional, or engineering design was tested 3 or more times.	Experiment was performed 2 times and/or sample size was adequate, or engineering design was tested 2 times.	Experiment was performed 1 time and/or sample size was minimal, or engineering design was tested 1 time.	Experiment was performed incompletely, or engineering design was not tested.
Data Collection	Project captures a dated sequence of the process, including all observations, data collection, and changes to the project in the form of a logbook, journal, or on the project.	Project captures a dated sequence of the process with moderate detail.	Project contains minimal documentation.	No documentation is provided.
Data Analysis	Data directly relates to the hypothesis/question/ problem and is clearly presented in the form of a table, chart, or other graphic organizer.	Data is reasonably presented and shows a good relationship to hypothesis/question/ problem.	Data is minimally presented and shows some relationship to hypothesis/question/ problem.	Data is not presented and no relationship to hypothesis/question/ problem is evident.
Conclusion	A logical conclusion has been drawn based on the data collected or the design(s) being tested.	A reasonable conclusion has been drawn based on the data collected or the design(s) tested.	A fairly reasonable conclusion has been drawn based on the data collected or the design(s) tested.	The conclusion drawn or solution designed is not shown to relate to the data collected or design(s) tested.
Evaluation/ Applications	The experiment or design raises a new hypothesis/question/ problem AND has real-world applications.	The experiment or design raises a new hypothesis/question/ problem OR has real-world applications.	The experiment or design minimally describes real-world applications.	The experiment or design does not raise a new hypothesis/ question/problem and does not have real-world applications.
Presentation (overall impression)				

Scientific Method/Engineering Design Process

The primary purpose of a science fair project is to encourage students to think critically and the investigate. Through following the scientific method or engineering design process, students learn how to learn.

The scientific method is a pattern of inquiry that forms a structure for advancing scientific understanding. It involves identifying a problem, forming a hypothesis, designing and constructing an experiment, collecting data, analyzing the results, and forming a conclusion. Scientists, using this approach, have answered questions ranging from the simplest to the most complex.

The engineering design process is an iterative process that challenges students to come up with a solution to a problem. It involves identifying the need or problem, researching, brainstorming possible solutions, choosing a solution, designing the solution, building a prototype, testing and evaluation, and sharing the solution.

Judging Rubric

All projects will be judged on how well they follow the scientific method or engineering design process using the rubric on the first page of this document.