

ELEMENTARY AND JUNIOR DIVISIONS

ENGINEERING DESIGN PROJECT RUBRIC

	SCORE
I. RESEARCH PROBLEM (10 PTS.) a. Description of a practical need or problem to be solved b. Definition of criteria for proposed solution c. Explanation of constraints	
II. DESIGN AND METHODOLOGY (20 PTS.) a. Exploration of alternatives to answer need or problem b. Identification of a solution c. Development of a prototype/model	
III. EXECUTION: CONSTRUCTION AND TESTING (20 PTS.) a. Prototype/model demonstrates intended design b. Prototype/model has been tested in multiple conditions/trials c. Prototype/model demonstrates engineering skill and completeness	
IV. CREATIVITY (20 PTS.) <i>A creative project demonstrates imagination and inventiveness. Such projects often are ones that are about something that the student personally cares about, have not been done hundreds of times before or frequently listed in Science Fair idea books or web. Creative projects offer different perspectives that open up new possibilities or new alternatives.</i> a. Project demonstrates significant creativity in one or more Criteria I -III or V b. Idea appears novel – at least to the student (not copied or seen repeatedly) c. Idea appears to be something that student cares about	
V. PROJECT PRESENTATION (30 PTS.) a. PDF-slides & quad chart (15 pts.) • Logical organization of material • Clarity of graphics and legends • Supporting documentation displayed b. Interview (15 pts.) • Clear, concise, thoughtful responses to questions • Understanding of basic science relevant to project • Understanding interpretation and limitations of results and conclusions • Degree of independence in conducting project • Recognition of potential impact in science, society and/or economics • Quality of ideas for further research • For team projects, contributions to and understanding of project by all members	

TOTAL

SCIENCE PROJECT RUBRIC

SCORE

I. RESEARCH QUESTION (10 PTS.).....

- a. Clear and focused purpose
- b. Identifies contribution to field of study
- c. Testable using scientific methods

II. DESIGN AND METHODOLOGY (20 PTS.).....

- a. Well-designed plan and data collection methods
- b. Variables and controls defined, appropriate and complete

III. EXECUTION: DATA COLLECTION, ANALYSIS AND INTERPRETATION (20 PTS.).....

- a. Systematic data collection and analysis
- b. Reproducibility of results
- c. Sufficient data collected to support interpretation and conclusions
- d. Appropriate application of mathematical methods for comparison

IV. CREATIVITY (20 PTS.).....

A creative project demonstrates imagination and inventiveness. Such projects often are ones that are about something that the student personally cares about, have not been done hundreds of times before or frequently listed in Science Fair idea books or web. Creative projects offer different perspectives that open up new possibilities or new alternatives.

- a. Project demonstrates significant creativity in one or more Criteria I -III or V
- b. Idea appears novel – at least to the student (not copied or seen repeatedly)
- c. Idea appears to be something that student cares about

V. BOARD/ POSTER PRESENTATION (30 PTS.).....

- a. PDF-slides & quad chart (15 pts.)
 - Logical organization of material
 - Clarity of graphics and legends
 - Supporting documentation displayed
- b. Interview (15 pts.)
 - Clear, concise, thoughtful responses to questions
 - Understanding of basic science relevant to project
 - Understanding interpretation and limitations of results and conclusions
 - Degree of independence in conducting project
 - Recognition of potential impact in science, society and/or economics
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 - For team projects, contributions to and understanding of project by all members

TOTAL