

Engineering Design Project Criteria and Judging Rubric

The following 8 criteria will be used to score student interviews and projects. Each criterion must be scored between 1-5, with 5 as best.

The scale is explained here: 1- is non-existent or marginal 3 is 'average' for their grade level 5 is exemplary, Nationals-worthy



Practicality

The project addresses a clearly defined problem or need and could conceivably exist and be useful (do consider diverse needs and perspectives).

1 2 3 4 5
Comments:



Marketability

There is a clearly defined market or customer base for the product, students have spoken to potential users/gathered user data. Who will use and/or buy the product?

1 2 3 4 5
Comments:



Knowledge Based

The students can explain the relevant science or other research that went into their product and have knowledge of similar products on the market. How well do the inventors use research and scientific analysis in explaining how their invention works? Did the inventors perform a patent search?

1 2 3 4 5
Comments:



Social Responsibility

The students addressed any relevant ethical or sustainability issues. The project is likely to have a positive impact on individuals or society. Did the inventors consider the environmental impacts and life cycle of the invention, including disposal and materials?

1 2 3 4 5
Comments:



Designed-Based Thinking

The students used an iterative design process including testing and refining. Look for evidence of improvement over time. Did the inventors consider multiple solution pathways and justify their solution choice? Did they iterate on their original idea? Do they have a meaningful mock-up or prototype(s)?

1 2 3 4 5
Comments:



Enthusiasm and Communication

Students communicated their ideas clearly and are excited about their product. Are the inventors passionate? How well do they communicate their ideas?

1 2 3 4 5
Comments:



Creativity

The product is sufficiently unique from competing products (shouldn't be easily found on Amazon), and is clever, novel, and/or delightful. What makes it different from other available products?

1 2 3 4 5
Comments:



Manufacturing

The students have considered making and manufacturing for their prototype and/or have a manufacturing plan for the future. Did the inventors consider how the product would be made? How would the prototype be modified for production? For apps or software, what is the plan to sustain or improve the app?

1 2 3 4 5
Comments:

Please leave comments constructive feedback, such as good next steps, opportunities, etc. Students will use this, particularly when continuing to develop their inventions or continue onto Nationals.