MSEF 2021 Virtual Science Fair Judging Rubric for Science projects

This rubric was designed using the International Science and Engineering Fair (ISEF) Rubric for science projects. It was modified to assist students with making a video presentation that can be judged without normal face to face contact and questioning procedures. Students and judges will have access to and use this same rubric for making the video presentation and for judging the video presentation.

At the beginning of each video the student should state their name, title of the project, school and grade level.

Judging Criteria	Students should include	Students may include (optional)
Research Question (10 total) ___ clear and focused purpose (3) ___ identifies contribution to field of study (3) ___ testable using scientific methods (4)	• What is the purpose of the project? • Why is it interesting or important? • What question did you want to answer or what hypothesis did you want to test?	• What was already known about the topic? (What had others scientist done?; What did articles say about this topic?...)
Design and Methodology (15 total) ___ well-designed plan and data collection methods (7) ___ variables and controls defined, appropriate and complete (8)	• How did you test your research question? • What did you do to collect data? • Did you have variables? What were your variables?)(Independent variable = what you changed,	• Pictures showing how you tested the research question. • Instruments used to collect data. • Information on any preliminary experiments that were carried out.

	Dependent variable = your outcome, Controlled variable = a constant variable.)	
Execution: Data Collection, Analysis and Interpretation (20 total) ___ systematic data collection and analysis (5) ___ reproducibility of results (5) ___ appropriate application of mathematical and statistical methods (5) ___ sufficient data collected to support interpretation and conclusions (5)	• How did you analyze your data? • Explain the mathematical and statistical methods used. • What are your results? • Explain how your project supports or contradicts your hypothesis?	• Were there factors/limitations beyond your control? • How could you extend/enhance your project? • What did you learn?
Video Presentation (25 total) ___ does not exceed time limit requirement (5 if individual, 4 if team) ___ include 4 pictures of the trifold board. (4) ___ demonstrates understanding of basic science relevant to the project (3) ___ demonstrated understanding of interpretation and limitations of results and conclusion (3) ___ demonstrates strong degree of independence in conducting the project (4) ___ demonstrates recognition of potential impact in science, society and/or economics. (3) ___ strong quality of ideas for further research (3) ___ for team projects, contributions to and understanding of project by all team members (1)	• Acknowledge any help you received, with project and presentation. • Clearly describe what your project is about when considering the criteria above. • How does your project impact science and future research? • Make sure the video is less than time limit. (K-6 grade = 5 minutes, 7-12 grade =7 minutes.) • If using a trifold board, include 4 pictures. A picture of each panel and a picture of the whole board.	• Acknowledge major sources used for information. • If 7-12 grade use PowerPoint slides instead of trifold board during the presentation. • If presenting as a team, contribute in equal parts throughout the presentation.
Poster (10 total) this will be determined by 4 pictures submitted ___ logical organization of material (3) ___ clarity of graphics and legends (4) ___ supporting documentation displayed (3)		
Creativity (20 total) ___ project demonstrates significant creativity in one or more of the above criteria (20)		