

DC4STEM Fair & Competition: **Scoring Rubrics**

If you have any questions or concerns, please email leadership@dc4stem.org.

* Indicates required question

Criteria and Rubric for Science and Math Projects

1. **Research Question (10 POINTS) ***

- Clear and focused purpose
 - Identifies contribution to field of study
 - Testable using scientific methods
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2. **Design & Methodology (15 POINTS) ***

- Well-designed plan and data collection methods
 - Variables and controls defined, appropriate, and complete
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3. **Execution: Data Collection, Analysis, and Interpretation (20 POINTS) ***

- Systematic data collection and analysis
 - Reproducibility of results
 - Appropriate application of mathematical and statistical methods
 - Sufficient data collected to support interpretation and conclusions
 - Recognition of limitations of results and conclusions
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4. **Poster Display/Project Materials (10 POINTS) ***

- Logical organization of material
 - Clarity of graphics and legends
 - Supporting documents displayed
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5. **Creativity (20 POINTS) ***

- Project demonstrates significant creativity in one or more of the above criteria
 - Recognition of potential impact in science, society, and/or economics
 - Quality of ideas for further research
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6. Please provide feedback to the student(s).
After review, your feedback may be shared with the student(s).

Criteria and Rubric for Engineering Projects

7. **Research Problem (10 POINTS)** *
- Description of a practical need or problem to be solved
 - Definition of criteria for proposed solution
 - Explanation of constraints

8. **Design and Methodology (15 POINTS) ***

- Exploration of alternatives to answer need or problem
 - Identification of a solution
 - Development of a prototype/model
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9. **Execution: Construction and Testing (20 POINTS) ***

- Prototype demonstrates intended design
 - Prototype has been tested in multiple conditions/trials
 - Prototype demonstrates engineering skill and completeness
 - Recognition of limitations of results and conclusions
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10. **Poster Display/Project Materials (10 POINTS) ***

- Logical organization of material
 - Clarity of graphics and legends
 - Supporting documents displayed
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11. **Creativity (20 POINTS) ***

- Project demonstrates significant creativity in one or more of the above criteria
- Recognition of potential impact in science, society, and/or economics
- Quality of ideas for further research

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13. **Technical Skill (25 POINTS) ***

- Demonstrates strong skill with the media/category
 - Is clear, well organized, and coherent
 - Contains very few technical errors or flaws, if any
 - Citations are effectively utilized and refer to an accurate works cited page (if applicable)
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14. **Interpretation of STEM Theme(s) (25 POINTS) ***

- Clearly articulates and demonstrates connections to one or more science, technology, engineering, or mathematics themes/topics
 - Excellent interpretation and communication of their chosen STEM theme(s)/topics(s)
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15. **Creativity (25 POINTS) ***

- Project demonstrates significant creativity in one or more of the above criteria
 - Exhibits distinct experimentation and innovation to enhance creative concepts
 - Use of strong metaphor, personal meaning and/or elaborate on complex ideas/skills
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