

CARNEGIE SCIENCE CENTER



PRSEF teacher Resource Center for student research Workshop

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SCIENCE FAIR

- PRSEF
- ISEF
- Broadcom Masters
- PJAS

CARNEGIE SCIENCE CENTER

ISEF

- 1800 students
- From over 400 affiliated fairs
- From 80 countries, regions, and territories
- All ISEF Finalists have won an all-expenses paid trip to compete here.
- Awards total \$5 million

Broadcom MASTERS

- Math, Applied Science, Technology, and Engineering for Rising Stars
- 300 Semifinalists
- 30 Finalists
- All Broadcom MASTERS Finalists win an all-expenses paid trip to compete in Washington DC

Presenting Research

What do Judges look for?

- Good Science
- Originality/Creativity
- Work
- Statistics
- Abstracts
- Sources/References
 - Check Out POWER LIBRARY

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Rubrics

Project # _____ Feedback Form – Senior/Intermediate Division

The purpose of this form is to provide one judge's assessment of the strengths and weaknesses of the presenter's work in order to improve future projects. It does not indicate how well the presenter performed with respect to other PRSEF participants.

Judging Criteria	Outstanding	Above expectations	At Expectations	Areas for Improvement	Points
Scientific thought	<input type="checkbox"/> Hypothesis is relevant, testable, and novel <input type="checkbox"/> Conclusion is fully supported by data	<input type="checkbox"/> Hypothesis is relevant, testable, and approached in a new way <input type="checkbox"/> Conclusion is largely supported by data	<input type="checkbox"/> Hypothesis is relevant, testable, & new to the student; research beyond simple Internet search <input type="checkbox"/> Conclusions may overstate what is supported by the data	<input type="checkbox"/> Choose a scientific question that is at or above the grade level of the student. Ensure that it is testable <input type="checkbox"/> Provide data that support the conclusion	_____/20
Experimental methods	<input type="checkbox"/> Variables & controls clearly defined and complete <input type="checkbox"/> Multiple trials, with multiple samples, performed <input type="checkbox"/> Experimental methods well planned, documented, & executed <input type="checkbox"/> Thorough work notebook	<input type="checkbox"/> Variables & controls defined and complete <input type="checkbox"/> At least 2 independent trials with multiple samples performed <input type="checkbox"/> Experimental methods well planned & carefully executed <input type="checkbox"/> Work notebook included	<input type="checkbox"/> Variables & controls defined but may be incomplete <input type="checkbox"/> Single trial with multiple samples performed <input type="checkbox"/> Experimental method appropriate but execution incomplete <input type="checkbox"/> Weak notebook	<input type="checkbox"/> Define variables and provide controls <input type="checkbox"/> Perform multiple trials with multiple samples <input type="checkbox"/> Use an experimental method that is appropriate <input type="checkbox"/> Prepare and present a notebook	_____/20
Analytical approach	<input type="checkbox"/> Data completely supports conclusions <input type="checkbox"/> Data limitations defined <input type="checkbox"/> Statistical analysis is appropriate & correctly executed	<input type="checkbox"/> Data adequate to support conclusion <input type="checkbox"/> Data limitations not fully understood <input type="checkbox"/> Statistical analysis correctly executed	<input type="checkbox"/> Data consistent with conclusions but not convincing <input type="checkbox"/> Limitations of data not addressed <input type="checkbox"/> Statistical analysis included	<input type="checkbox"/> Present data that support conclusions <input type="checkbox"/> Understand and describe the limitation of the data <input type="checkbox"/> Apply correct and appropriate statistical analysis	_____/20
Visual Presentation	<input type="checkbox"/> Poster is primarily graphs or tables, scientific question, conclusions, & brief descriptions of methods <input type="checkbox"/> Data presentation is clear and concise. <input type="checkbox"/> Material is well organized and reader needs no assistance.	<input type="checkbox"/> Text and visually displayed information balanced on poster <input type="checkbox"/> Proper use of data presentation (graphs/tables) <input type="checkbox"/> Material is organized and reader needs minimal assistance.	<input type="checkbox"/> Text outweighs visually displayed information <input type="checkbox"/> Some use of graphs/tables for data presentation <input type="checkbox"/> Material is organized so the reader can navigate through it with help	<input type="checkbox"/> Revise the poster to balance text and visually displayed information <input type="checkbox"/> Organize the material to assist the reader	_____/20
Oral Presentation	<input type="checkbox"/> Well prepared, reflects a deep understanding in the question and relevance to a broad audience <input type="checkbox"/> Responds readily to questions <input type="checkbox"/> Can reason from findings to suggest further investigations	<input type="checkbox"/> Well prepared, reflects a deep understanding of the question <input type="checkbox"/> Familiarity of background appropriate to experience level <input type="checkbox"/> Can reason from findings, with help, to suggest further work	<input type="checkbox"/> Well prepared, reflects an adequate understanding of the question. <input type="checkbox"/> Limited familiarity with background appropriate with experience level <input type="checkbox"/> Able to suggest further research	<input type="checkbox"/> Provide a complete description of the question <input type="checkbox"/> Become more familiar with the background material <input type="checkbox"/> Provide at least one suggestion for further research	_____/20

Judge's Constructive Comment/Suggestion:

Teacher Judge Training Program

- Opportunity to learn about the judging process.
- You will
 - Be assigned to a category
 - Review projects and interview students
 - Discuss projects
 - Express your opinion
- You will NOT vote to make the final decision on awards.

Better Science Fair Projects

- Process to explore how to improve student research in Pittsburgh Region
- Here today to help teachers understand process
- Here today to ask your opinion (Later in program)
- Want to know more? Get Report from
 - ISEF@Pitt.edu