Judging at the Great Lakes Bay Region Science, Technology and Engineering Fair

The following tips should be considered as you review and score projects.

- Examine the quality of the Participant's work, and how well the Participant understands his or her project and area of study. The physical display is secondary to the student's knowledge of the subject. Look for evidence of laboratory, field or theoretical work, not just library research or gadgeteering.

- Judges should keep in mind that competing in a science fair is not only a competition, but an educational and motivating experience for the students. The high point of the Fair experience for most of the students is their judging interviews.

- Students may have worked on a research project for more than one year. However, for the purpose of judging, ONLY research conducted within the current year is to be evaluated. Although previous work is important, it should not unduly impact the judging of this year's project.

- As a general rule, judges represent professional authority to Participants. For this reason, judges should use an encouraging tone when asking questions, offering suggestions or giving constructive criticism. Judges should not criticize, treat lightly, or display boredom toward projects they personally consider unimportant. Always give credit to the Participant for completing a challenging task and/or for their success in previous competitions.

- Compare projects only with those competing at this Fair and not with projects seen in other competitions or scholastic events.

- It is important in the evaluation of a project to determine how much guidance was provided to the student in the design and implementation of his or her research. When research is conducted in an industrial or institutional setting, the student should have documentation, most often the Intel ISEF Form 1C, that provides a forum for the mentor or supervisor to discuss the project. Judges should review this information in detail when evaluating research.

- Please be discreet when discussing winners or making critical comments in elevators, restaurants, or elsewhere, as students or adult escorts might overhear. Results are confidential until announced at the awards ceremony.

Evaluation Criteria for Category Judging

The criteria and questions below will be used for scoring.

Creative Ability (30 points)

Does the project show creative ability and originality in the questions asked?, the approach to solving the problem?, the analysis of the data?, the interpretation of the data?, the use of equipment?, the construction or design of new equipment?

Creative research should support an investigation and help answer a question in an original way.

A creative contribution promotes an efficient and reliable method for solving a problem. When evaluating projects, it is important to distinguish between gadgeteering and ingenuity.

Scientific Thought/Engineering (30 points)

Is the problem stated clearly and unambiguously?

Was the problem sufficiently limited to allow plausible approach? Good scientists can identify important problems capable of solutions.

Was there a procedural plan for obtaining a solution?

Are the variables clearly recognized and defined?

If controls were necessary, did the student recognize their need and were they correctly used?

Are there adequate data to support the conclusions?

Does the Participant recognize the data's limitations?

Does the Participant understand the project's ties to related research?

Does the Participant have an idea of what further research is warranted?

Did the Participant cite scientific literature, or only popular literature (i.e., local newspapers, Reader's Digest).

Does the project have a clear objective?

Is the objective relevant to the potential user's needs?

Is the solution workable? acceptable to the potential user? economically feasible?

Could the solution be utilized successfully in design or construction of an end product?

Is the solution a significant improvement over previous alternatives?

Has the solution been tested for performance under the conditions of use?

Thoroughness (15 points)

Was the purpose carried out to completion within the scope of the original intent?

How completely was the problem covered?

Are the conclusions based on a single experiment or replication?

How complete are the project notes?

Is the Participant aware of other approaches or theories?

How much time did the Participant or team spend on the project?

Is the Participant team familiar with scientific literature in the studied field?

Skill (15 points)

Does the Participant have the required laboratory, computation, observational and design skills to obtain supporting data?

Where was the project performed (i.e., home, school laboratory, university laboratory)? Did the student or team receive assistance from parents, teachers, scientists or engineers?

Was the project completed under adult supervision, or did the student work largely alone?

Where did the equipment come from? Was it built independently by the Participant? Was it obtained on loan? Was it part of a laboratory where the Participant or team worked?

Clarity (10 points)

How clearly does the Participant discuss his/her project and explain the purpose, procedure, and conclusions? Watch out for memorized speeches that reflect little understanding of principles.

Does the written material reflect the Participant's understanding of the research?

Are the important phases of the project presented in an orderly manner?

How clearly is the data presented?

How clearly are the results presented?

How well does the project display explain the project?

Was the presentation done in a forthright manner, without tricks or gadgets?

Did the Participant/team perform all the project work, or did someone help?