



TERRA NORTHEAST REGIONAL SCIENCE & ENGINEERING FAIR

Judging 101

Thank you for choosing to be a Judge at our regional fair. What a great time you will have seeing and hearing about the amazing work of our TNRSEF students!

Logistics: Register as early as possible. Before March 1, you will receive an e-mail with your assignment (Junior, Senior, Topic Presentation, Special Awards). Experienced judges may be selected as team captains. You will receive your team assignment at Check-In. An approximate schedule is online now.

Science Fair Judging is on the Saturday, March 11th at SUNY Potsdam. Parking is free. We provide coffee and a light breakfast during training, and lunch for all judges during deliberations.

Objectives of the Fair & the Judging Process

1. Encourage students' pursuit of science, technology, engineering and mathematics.
2. Showcase students' science and engineering research.
3. Excite students about returning to next year's science fair.

Judging Do's & Don'ts

Rule #1: I will recuse myself if I have any connection to the student, project, school, family or friends.

Rule #2: Make this an educational and motivating experience for every kid! The high point of the fair for most students will be YOUR judging interviews. *Encourage all the participants.*

Rule #3: Remember that judges represent professional authority to students. So ... use an encouraging tone when asking questions, offering suggestions or giving constructive criticism. Do NOT criticize, treat lightly or act bored toward projects that seem unimportant to you. THE PROJECT IS VERY IMPORTANT TO THE STUDENT. Thank him/her for the hard work and accomplishment.

Rule #4: Be discreet! Discuss winners or make critical comments only INSIDE the Judge Deliberation Area! Students, parents or teachers may overhear in the Exhibit Hall or lobbies. ALL results are confidential until after the Awards Ceremony. **No details regarding deliberations are EVER discussed outside the Judges' Deliberation Area before or afterwards.**

Terra Northeast Regional Science and Engineering Fair

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Research / Engineering Design Judging Procedure

Before judging begins, you do a brief walk-through of the entire fair to get a sense of the level at which students are working. You then view all the projects on your list for their location and to start formulating questions you could ask. Please **DO NOT TALK** to the students during this time.

**** Reminder to Junior Judges: Avoid comparing your students to those in other grade levels. ****

You will review the Judging Rubric in detail during your training sessions. Take time now to preview it now via the online link, so you prepare your questions for your trainer.

Interview students **ONE JUDGE AT A TIME**. Limit your time with each student to 10 minutes. (You have more students to judge and other judges need to meet that student.) Shake hands and identify yourself as a judge, allow the student to introduce him or herself, and then open judging.

An easy three-step question guide: “What did you do? What did you learn? What will you do next?”

Allow the student to give their prepared oral description of the project (about 3-4 minutes). Encourage the student to get the entire story out before you begin to ask questions.

Then engage in a conversation during which you ask questions about such things as why they selected the topic, how long they worked on the project, what their plans are for future research as well as questions that encourage the student to clarify what s/he did. Don't hesitate to ask questions that help you determine the limits of background knowledge or help you to understand how the student worked with parents or mentors. You may also ask questions to clarify how independent and self-motivated the student was throughout the project.

You should ask to see an abstract, written paper, research logbook and bibliography.

At the end of the interview, shake hands, congratulate the student on his/her work and say goodbye. You may take notes about your impressions. **However, never record ratings, discuss projects with judges, or complete the Judge Tally in front of any student or parent.**

Later, use the Judging Rubric to rate the students only in the Judge Deliberation area. Security volunteers will permit only Judges and Fair Officials to enter.

Topic Presentation Judging

For the Topic Presentation Judging, you will receive a stack of record sheets. Place the sticker of each student you interview on one of the record sheets. You will evaluate each topic presentation on a five-item scale, 0-2 points per item for a maximum score of 10. The Fair volunteers will then total the scores from every judge for each student, and select Best of Grade Honors and the 30-40% who receive Poster Commendations.

The Topic Presentation Judging Rubric is available online.

Special Awards Judging

You will receive guidelines for each special award at your training; mention when you sign in if you are coming to judge a specific special award. You will receive a sticker from each student you interview for your record sheets. Turn in the paperwork with your selection(s) at Awards Processing.

Terra Northeast Regional Science and Engineering Fair

Issues to be considered

Is the exhibit display important?

The exhibit offers a visual of the student's research and acts as a tool for both the student and the judge. More important is the student's understanding of his/her research and ability to communicate.

Why is the question-and-answer period the most important part of the interview?

Q&A will give you a sense of how independent the student was, how well s/he understood the project.

How much ownership should the students have for their work?

Ideally, the student should have generated the project idea; [Science Buddies](#) can walk them through this process under their own steam. The student should be the most active participant in all possible aspects of the project. The analysis and conclusions should be entirely their own.

What are the roles of mentors and parents?

Ideally, mentors and parents are only assistants. However, dangerous procedures or lab setting rules may require adult supervision or the adult's sometimes doing the experiment. The student should be present for the experiment! Any subsequent work is the responsibility of the student. Parents and mentors should **never** do literature reviews, data manipulation, conclusions, or display work.

What is original research to these age groups?

Your experience may be with original research *at the graduate level*, which is either something that has never been done before or is a twist on an already established scientific or engineering principle. Original research is not required of a middle or high school project, though it can earn the student up to three bonus points. **However, you are looking for documentation that actual experimentation was conducted.** Merely demonstrating a scientific or engineering principle is not "research."

Why can't every student win an award?

The science fair is a competition for advancement to other competitions (e.g., Intel ISEF, Genius Olympiad, Broadcom Masters, the Stockholm Junior Water Prize) and a variety of special awards that commend exemplary work. Every student does receive a Certificate of Participation.

Junior Level and First Round Senior Level R/ED Judging Team Deliberations

Once all judges on a team complete their interviews of all the students on their lists, the team meets to discuss the projects under the guidance of the experienced team leader. Judging projects and selecting award winners are by their nature subjective. The Judging Rubric serves as a guideline for what award levels should look like. Your score sheets and notes will guide you as your judge team discusses the subjective merits of the students' work.

Terra Northeast Regional Science and Engineering Fair

Each team member shares her/his reflections about each student. Remember that students are nervous and learn from each of you. The first judge to interview a student could get a very different presentation and impression from the last judge.

Review the list of items for which each student must be scored. Only Topic Presentations stop at a report of the literature that the student has read, or at a plan for future work. Winning Research / Engineering Design Projects must include an experiment in which the student analyzed or manipulated data to test a hypothesis or an engineering objective, and comes to a conclusion or engineering summary. Students may have collected data directly or they may have used pre-existing data sets such as medical or climate records. The students must then have manipulated, organized, graphed or mapped the data to show a previously unseen or untested relationship or pattern that relates to their hypothesis or engineering objective. While replication of existing experiments is an important part of scientific research and a valuable learning experience, projects that only demonstrate an established principle or procedure should be rated below more original inquiries.

At your training, take careful notes about the distribution of Honors, High Honors and Highest Honors. We expect roughly 30% Honors, 20% High Honors and 10% Highest Honors. But how that will work out at the team level will depend on the final numbers of students and judges at the TNRSEF – a number one cannot predict. You will be given specific guidelines in your training.

Senior Level R/ED Second Round of Judging

In order to select our three Intel ISEF Finalists' projects, Senior Level judge team captains will interview the Senior Level Highest Honors winners. This second round will start as soon as the initial judging group decisions have been submitted. These judges circulate in small groups to interview the eligible students and then convene to select the Intel ISEF Finalists. First, second and third place winners will represent our region at the Intel International Science and Engineering Fair the following May. The fourth-place project will be the Intel ISEF Alternate. It is very important that we select four projects which meet ALL of the criteria of the Judging Rubric as well as meet all of the rules and paperwork requirements of the ISEF Scientific Review Committee.

Awards

Feel free to ask for clarification of judging criteria or goals from a member of the judging committee. Do not submit a final awards score card for your group if:

1. you have selected no one for a Highest Honor medallion;
2. you have selected all students to receive a medal.

If your judging team arrives at either of these conditions, consult a member of the judge committee for assistance BEFORE submitting your final decision. We need to verify your conclusions.

Terra Northeast Regional Science and Engineering Fair

In the Junior Level (5th-8th grade), approximately 10% of the participating students (generally Highest Honors winners) will be selected as nominees for the national Broadcom Masters.

***Caution - Recording errors on award forms hurt students.
Every student must be marked as an award winner, no award given, or absent.***

Watch the time carefully, so your results are submitted in time to process for the Awards Ceremony!

Before submitting the awards form, carefully review the entire list of students and confirm your decisions. With hundreds of students and awards, recording errors can happen, leading to very unfortunate situations for students and fair volunteers. In your final review, poll the judge team by describing each of your students by name/number and by project description to confirm that you are giving awards to the students/projects that you intend to. Do not hesitate to consult with a fair official.

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