

Judging at WRSTEF 2023

A very big thank you to our judges on behalf of the students participating in this year's Science Fair and the members of the WRSTEF Committee!! Your positive interaction with the students is the most important part of our Science Fair.

There are two sets of judges at the Fair: one set for Excellence Grades (Medals Awards) and the second for Sponsored Awards. The two judging processes are independent, and their tasks are different. Medals (Excellence) judges will be **assigning grades** to projects. Sponsored Awards judges will be **ranking their top projects**.

Judges' interaction with students (Applies to both types of judges)

Judging is more than putting scores on paper. As a judge you will step into a number of roles through the judging day. Fulfilling all of these roles is important for having a successful science fair. Your multiple roles as a judge include:

Evaluator role:

The main role of a Judge is to evaluate the various projects and assign them a score. Part of this is usually done before the students arrive in the morning. Evaluate the project on the basis of what you see. Quality of work and presentation are the criteria.

Facilitator role

Later, you get to meet the students. You will still be evaluating the project, but you will also be a Facilitator, creating an open and positive atmosphere to allow the student to comfortably tell you about their project and the research that they did. This role is important because quality of your facilitation will affect the amount of information you will receive to make an accurate evaluation of the project as a whole.

Motivator role

An important role of a judge is to give the students some compliments that will make them feel good about their work and motivate them to compete again. The students have put in a lot of work to compete in the Fair and should be complimented on that. The simplest compliment given to a student can spur them on to future success in life.

Role Model

Remember that when communicating with the students, you are in the role of the judge, a leader in the community, from business or academia. Your actions portray to the students what the Fair is all about. Take care about what you do and say in the presence of the students.

Interaction with Students

Things that you can do to make the interaction a positive learning experience for the students and an enjoyable one for yourself:

- Have a welcoming tone
- Show that you are interested
- Listen actively
- Give positive reinforcement to nourish self-esteem (say what you like about project)
- When you have reached the student's knowledge limit, stop asking questions
- Have positive comment(s)
- Remember when you were 12 years old!

Sample Questions

These are some good sample questions that will spur on conversations during judging

- Why did you decide to study this topic?
- What are your controlled variables?
- How accurate are your readings/measurements?
- What future applications can you see from the results of this project?
- What one outstanding thing did you learn doing this project?
- How would you improve this project if you would do it again?

Suggested Wording

Personalize your language... e.g. I liked...I enjoyed... I feel that... I see that...

If asked for advice... I suggest... A technique I have used...

Medals (Excellence) judging

Each team of around 5-6 judges will be assigned 4-7 projects. Judges will meet as a team via zoom link provided to decide on consensus grades.

Each project will receive 3 marks, one each for A. Scientific Thought, B. Originality & Creativity and C. Communication. (These marks are later assigned 3x, 2x and 1x weightings by computer). A project may be an Experiment, an Innovation or a Study so three slightly different grading guides are provided in your folder. For each project select the appropriate grading rubric. The marking rubrics are available on your judging page.

The final grades within an age group will be ranked in order to assign awards.

The Canada Wide Science Fair (CWSF) selection team will review the rankings for Senior, Intermediate and Junior projects and select the students who will represent WRSTEF at the CWSF.

Early hunt for Canada Wide Talent (Grades 7 through 12)

As you do your first viewing of projects online (and/or on the day of fair), please be on the lookout for any truly outstanding project. If a project looks as if it might be worthy of representing Windsor at the CWSF, please email Danielle Richer at madricher@yahoo.com and/or Dr. Trantum Kaur at tranum@uwindsor.ca and give them the title, and group number of the project so that it can be evaluated by the CWSF Judge Team as early as possible.

Judging tips

- Set appropriate timing goals for your projects (10 per project maximum for Q &A), allowing time for making notes and entering grades
- Students' understanding is as important as the work presented in the project
- Don't discuss judging scores in front of students
- Don't raise inappropriate expectations by telling a student "Your project definitely deserves a gold medal".

Judging a Project in Pre-judging period (before the main fair day)

1. Read through the project in some logical order; assess its impact, and how well it tells the "story" of the project. Were you able to understand quickly what the project is trying to do, and what the results were?
2. If equipment or devices are part of the project, do they serve an obvious purpose, based on what you have seen so far?
3. Read through the abstract, introduction or conclusion.

- Write down some questions and compliments, for use in the interview stage, and comments which you provide to the student, time permitting.

Assigning grades - Once the students is interviewed:

- Write down the score (level and rank) of the projects you have judged.
- Which one is best? Which should be at the bottom of the list? You may provide details in the comment box provided.

Marks are assigned to Parts A, B and C for each project. Note especially the mark for Part A, Scientific Thought, which is heavily weighted (the computer will multiply this mark by 3). Part B, Originality & Creativity is also heavily weighted (the computer multiplies your mark by 2). Reminder: with Levels and Ratings bigger is better! The maximum Level and Rating yields a grade of 4.9.

- Please base the final grades not on a simple average of the Judges' grades but on a consensus grade discussed, negotiated, and agreed-on by the judging team.

Grading Guide Forms

Three alternative judging rubrics are used, depending on whether the project is: An Experiment, Innovation or a Study. The marking rubrics are available on your judging page. If you are a group leader, you will have access to all your groups' scores to moderate the consensus conversation. You will then submit the scores that will be used for rankings and other fair business. More on scoring will be discussed at the Judge briefing meeting in the morning, March 25, 2023, at 9 am on the zoom link provided to you.

Finally, this is an idea of how the grading process is done (see below).

GRADE FOR EXCELLENCE (MEDALS) (Not to scale and not exactly as shown)

Please use the enclosed Grading Guide to assign a Level (1,2,3 or 4) to Parts A,B and C. Level 4 is the best. In addition to the level, enter a Rating from 0 to 9 (9 is the best), that reflects the quality of the project relative to other projects you have assigned the same level. Your team will decide on a consensus set of levels and ratings for each project.

Project information ⁺	Part A*** Lev.		Part B**		Part C*	
	(1-4)	Rat.(0-9)	Lev.(1-4)	Rat.(0-9)	Lev.(1-4)	Rat.(0-9)
Example	3	6				

1
2
3
4
5
6

⁺Box sized for sticker; Project #, Title, Student name/s, E,I or S (Expt., Innovation or Study), Grade weighting by computer *** = x 3; ** = x 2; * = x 1.

In the example, the grade for Part A is 3.6.

The Grading Guide (partial example shown below) is used to determine the Level (1-4) of achievement shown by the project. The Rating (0-9) is then used to fine tune the grade and provide appropriate discrimination between projects at the same Level.

Part A (Scientific thought)

1. Level 1. Replicate a known experiment to confirm previous findings.
2. Level 2. Extend a known experiment with modest improvements to the procedures, data gathering and possible applications.
3. Level 3. Devise and carry out an original experiment. Identify the significant variables and attempt to control them. Analyze the results using appropriate arithmetic, graphical or statistical methods.
4. Level 4. Devise and carry out original experimental research in which most significant variables are identified and controlled. The data analysis is thorough and complete.

The grade weightings for A (x 3), B (x 2) and C (x 1) will be calculated by computer. Parts A, B and C refer to Scientific Thought, Originality & Creativity, and Communication, respectively.

Please note that in projects presented by a pair of students (or as a team), the students are expected to contribute equitably to the oral presentation of the project. This will affect their grade for communication (Part C).

Sponsored Awards (SA) judging guidelines

SA judge teams may have a large number of projects to rank. They should plan a strategy to divide the projects among team members and then come together as a team to make the final selection. The project must fit the Sponsor's criteria.

Goal: To determine the top projects assigned to you and rank the top projects using the criteria provided by the Sponsor of the award.

Based on previous years, the lower grade school levels have the most submissions and therefore some judging teams may have a large number of eligible projects to review. Some teams will be looking at a smaller number of eligible projects.

Day of the event:

- a. Within the judging team, judges should determine how to best ensure that all submissions are reviewed. Some suggestions: Split the projects into 2 groups and break into teams of two judges with each sub-team examining half of the projects. Select top projects as a sub team, if needed.
- b. Sponsored award judges will listen in the presentations through zoom links provided and then convene with their judging group afterwards to decide on award winners that best fits the sponsor's criteria.
- c. If there are no judges for an award, the committee will decide based on the reported scores.
- d. Based on experience, some judges find the following 10 point scale helpful to bear in mind while initially ranking projects for a Sponsored Award
 - i. Scientific thought (5 marks)
 1. Scientific approach to an original topic.
 2. Significant variables identified and controlled.
 3. Analysis of results may include arithmetical, graphical or statistical methods.
 - ii. Originality (3 marks)
 1. Originality, resourcefulness, creativity
 - iii. Presentation (2 marks)
 1. Online presentation (clarity, logical flow, well structured, etc.)
 2. Oral presentation

This may give you a handy way to assign a rough score out of 10 which may be helpful in ranking projects and finding the best projects for your team to focus on, but **the Sponsor's criteria and the consensus of the judging team are the ultimate yardsticks for the selection of a project.**

Thank you again for your support! Looking forward to seeing you at the WRSTEF 2023!