Judging at WRSTEF 2018

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.**

Some projects are in French. If you are assigned a project in French and do not speak French, please ask the students to explain their work in English.

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:

- Introduce yourself briefly
- Show that you are interested
- Listen actively
- Give positive reinforcement to nourish self-esteem (say what you like about project)
- Work to put students at ease, (e.g. bend or sit down)
- When you have reached the student's knowledge limit, stop asking questions

- Have at least one positive comment for every student
- 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 4-8 judges will be assigned 4-7 projects. Judges will grade the projects independently and later meet as a team 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 guide in your folder.

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

Medal awards in each age group are based on the grade rank of the project. Approximately 60% of students will receive medals, in the general ratio of I Gold; 2 Silver; 4 Bronze.

Honorable mention certificates are no longer awarded. Instead, there are more Bronze medals.

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 (in the absence of students), please be on the lookout for any truly outstanding project. Check the student work books. If a project looks as if it might be worthy of representing Windsor at the CWSF, please visit the grade submission table in the basement (where the judge meeting rooms are located) at once and give them the title and number of the project so that it can be evaluated by the CWSF Judge Team as early as possible. After lunch, try to visit superior or promising projects at the first opportunity (when students are not already being interviewed). Again, if you are strongly impressed (blown away) don't tell the student, but please notify the CWSF team. (There is no need to wait until the final grade has been assigned by consensus of your team).

Judging tips

- Look at some of your category projects before starting to judge your assigned projects
- Before starting to judge take a quick walk-around of all of your assigned projects, to get a feel for what they are about, what they look like, and where they are located
- Set appropriate timing goals for your projects (10-15 min per project), allowing time

for making notes and entering grades

- Students' understanding is as important as the work presented in the project
- Revise your scores as many times as you need
- Don't tally judging sheet in front of students
- Don't raise inappropriate expectations by telling a student "Your project definitely deserves a gold medal".
- Don't discuss grading with other judges within earshot of students.

Judging a Project in Pre-judging period (before students arrive)

1. Read through the backboard 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 display, do they serve an obvious purpose, based on what you have seen so far?
3. Read through the abstract or summary
4. Read through the workbook (journal and/or report); it is most helpful in evaluating student's work and organization!
5. Write down (page 2 of your grading sheet) some questions and compliments, for use in the interview stage, and comments which you may use in the feedback form for students

Judging Projects with students present

1. Each judge in the team meets the student(s) individually. Avoid "team-judging". Remember to sign the judging card for each project.
2. Feel free to ask an experienced judge if you have any questions during judging.

Assigning grades - Once all projects are marked and the students are interviewed:

1. Write down the rank order of the projects you have judged, based on your overall impressions of the day.
2. Which one is best? Which should be at the bottom of the list?

Now check the marks you have 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). For projects at the same Level (e.g. Level 3), use the Ratings (0-9) to rank the projects appropriately.

Reminder: with Levels and Ratings bigger is better! The maximum Level and Rating yields a grade of 4.9.

3. Is your impression consistent with the marks you've assigned? Decide if you need to review anything.
4. Finally, meet with your judging team to discuss your projects and assign 3 final grades for parts A, B and C of each project. Prepare to be surprised and to discuss reasons for discrepancies and inevitable 'outlier' grades.
5. 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.
6. For each project, <u>at least one of the judges should fill out a comments sheet to return to the student(s)</u>.

Grading Guide Forms

Three alternative judging forms are used, depending on whether the project is: An Experiment, Innovation or a Study.

Using the Grading Guide forms as your grading yardstick, enter grades on the Grade Sheet in your folder. Your Grade Sheet has two pages, one for your grades and one for your brief notes on Parts A, B and C of each project. These notes will be helpful at the judge team meeting when you are discussing the consensus Levels and Ratings for each project component.

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

GRADE SHEET FOR EXCELLENCE (MEDALS) Not to scale.
Judge's name……
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.
Later your team will decide on a consensus set of levels and ratings for each project.
Awards are based on ranking of marks among competing students.

Project information+	Part A***		Part B**		Part C*		
	Lev.(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), Judge Team ID 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, 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. Judges will be given their list of submissions to judge, and meet with their judging team.
b. Within the judging team, judges should determine how to best ensure that all submissions are reviewed. Some suggestions include:
    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
c. Once the initial judging is complete, your entire team will reconvene and discuss which projects deserve a further interview with the student. After lunch, each team will go back out and meet with the student.
d. Once the final judging is complete, your team will reconvene and discuss as a group which project is the best one that fits the sponsor's criteria and will receive the award.
e. 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. Visual display
        2. Oral presentation
        3. Logbook used to document day to day work on the project.

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.**

Once judging is complete, the team leader must hand in all papers at the Hub (second floor).

Thank you again for your support!