Peel Region
Science Fair

2017
PEEL REGION SCIENCE FAIR
JUDGE'S REGISTRATION GUIDE

Welcome!

Dear Science Fair Contact

The Peel Region Science Fair (PRSF) is a unique opportunity to promote project based science to the youth of today. This science exhibition is one of nearly 100 fairs across Canada and 27 across Ontario that celebrates the work of young scientists and recognizes excellence in their research and innovation.

This package contains information you need to register for judging at UTM. Many schools have registered from the Peel District School Board, Dufferin-Peel Catholic District School Board and private schools in the Region of Peel.

We are looking for judges to evaluate students and their projects. Students are competing for monetary prizes, medals and certificates of achievement. The best projects from our region will be travelling to Regina, SK to compete at the Canada Wide Science fair.

Judging at a regional level is an opportunity to work with students who are interested in the field of science. This is an excellent professional development experience as you will be able to evaluate student projects with your peers as well as people in industry. Lunch is also provided.

Please fill out the online registration form at www.peelscience.ca by . Early registrations will be accepted. Registration opens **1/15/2017.** Judges with be able to declare their affiliation with a particular school or organization during their registration process.

Project Classification

Category
There are 3 categories of project based on the student's school grade. Junior (Grade 7 & 8), Intermediate (Grade 9 & 10) and Senior (Grade 11-12). For projects completed by two students, the category is that of the highest-grade member.

Type
There are 3 types of projects that help judges characterize the nature of the work: **Experiment**, **Innovation** and **Study**. All three types are equivalent, but differ somewhat in the way they are conducted and evaluated.

The following may help clarify the differences:

- ***Experiment***
  Involves the testing of a specific hypothesis with the control of significant variables. Judging emphasis is on the experimental design and analysis of the data.

- ***Innovation***
  Involves the development and evaluation of new devices, models, techniques or approaches, usually in technology, engineering or computers. Judging emphasis is on the design process, application of scientific and engineering principles or human benefit

- ***Study***
  Involves the collection and analysis of data from sources other than the student's own work to reveal evidence of a fact, situation, or pattern. Judging emphasis is on insightful analysis.

Judges at the Science Fair will be looking at a combination of written information and the student presentation. Successful students will be able to demonstrate depth and breadth of knowledge for the scope of their project. The project should exhibit qualities of excellence and creativity.

Evaluation – Project Marking Sheet:

SCIENTIFIC THOUGHT AND KNOWLEDGE (Value 60%)	1 = Poor 5 = Average 10 = Excellent										
Is there a viable commercial application or significant human benefit?	1	2	3	4	5	6	7	8	9	10	
Does the student understand the scientific or engineering principles, laws, or theories related to the project at a level appropriate to the project?	1	2	3	4	5	6	7	8	9	10	
Is there a well-defined objective or purpose given for the project?	1	2	3	4	5	6	7	8	9	10	
Does the design of the investigation effectively address the problem identified?	1	2	3	4	5	6	7	8	9	10	
Does the student demonstrate refinement/improvement to the design?	1	2	3	4	5	6	7	8	9	10	
Are the significant variables recognised and controlled?	1	2	3	4	5	6	7	8	9	10	
Are observations clearly and logically organised?	1	2	3	4	5	6	7	8	9	10	
Did the student gather data from suitable sources?	1	2	3	4	5	6	7	8	9	10	
Has the student amassed an appropriate and relevant data sample?	1	2	3	4	5	6	7	8	9	10	
Is there strong evidence of a fact, situation or pattern of scientific interest?	1	2	3	4	5	6	7	8	9	10	
Is the conclusion valid based on the data collected?	1	2	3	4	5	6	7	8	9	10	Total
Does the student have clear ideas for further research or applications?	1	2	3	4	5	6	7	8	9	10	

ORIGINALITY or CREATIVE ABILITY (Value (15%)	1 = Poor 5 = Average 10 = Excellent										
Does the project demonstrate originality at a level appropriate to the student?	1	2	3	4	5	6	7	8	9	10	
Does the project show resourcefulness and/or creativity in design?	1	2	3	4	5	6	7	8	9	10	
Does the investigation of the phenomenon or the design process, incorporate a novel approach?	1	2	3	4	5	6	7	8	9	10	Total
Is the data obtained, analysed or interpreted in an original way?	1	2	3	4	5	6	7	8	9	10	

DISPLAY (Value 15%)	1 = Poor 5 = Average 10 = Excellent										
Does the display use a clear and logical approach to explaining itself?	1	2	3	4	5	6	7	8	9	10	
Does the exhibit make appropriate use of various media? (Equipment and gadgets that are simply decorative will be ignored and may be counted against the exhibit).	1	2	3	4	5	6	7	8	9	10	
Are charts, diagrams, graphs etc. used in a meaningful way, which supports the presentation?	1	2	3	4	5	6	7	8	9	10	Total
Does the exhibit demonstrate good workmanship? (I.e., Does everything work as it should?)	1	2	3	4	5	6	7	8	9	10	

PRESENTATION (Value 10%)	1 = Poor 5 = Average 10 = Excellent										
Does the student communicate his/her knowledge and understanding?	1	2	3	4	5	6	7	8	9	10	Total
Does the student demonstrate that he/she has completed the project as independently as could be expected for his/her age/grade? (Adult guidance, advice, and supervision of hazardous work is appropriate, but excessive adult involvement counts against the exhibit).	1	2	3	4	5	6	7	8	9	10	

Overall Evaluation

	A. EXPERIMENT	B. INNOVATION	C. STUDY	Type
	An investigation undertaken to test a scientific hypothesis experimentally. The variables, if identified, are controlled to some extent	The development and evaluation of innovative devices, models or techniques or approaches in technology, engineering or computers (hardware or software).	A collection and analysis of data to reveal evidence of a fact or a situation of scientific interest. It could include a study of cause and effect or theoretical investigations of scientific data.	
				Check
Level 1	Duplicate a known experiment to confirm the hypothesis. The hypothesis is totally predictable.	Build models (devices) to duplicate existing technology.	Study existing printed material related to the basic issue.	
Level 2	Extend a known experiment through modification of procedures, data gathering, and application.	Make improvements to or demonstrate new applications for existing technological systems or equipment and justify them.	Study material collected through a compilation of existing data and through personal observations. Display attempts to address a specific issue.	
Level 3	Devise and carry out an original experiment. Identify and control some of the significant variables. Carry out an analysis using graphs or simple statistics.	Design and build innovative technology or provide adaptations to existing technology that will have human benefit and/or economic applications.	Carry out a study based on observations and literary research illustrating various options for dealing with a relevant issue. Include appropriate analysis (arithmetic, statistical, or graphical) of some significant variable(s).	
Level 4	Devise and carry out original experimental research, which attempts to control or investigate most significant variables. Include statistical analysis in the treatment of data.	Integrate several technologies, inventions or designs and construct an innovative technological system that will have human and/or commercial benefit.	Correlate information from a variety of significant sources, which may illustrate cause and effect or original solutions to current problems through synthesis. Identify significant variable(s) with an in-depth statistical analysis of data.	

Schedules of Events

Tuesday, 4/25/2017

2:00 pm - 3:30 pm: Students arrive to set up their projects

2:00 pm - 3:30 pm: Safety checks / Pictures

3:30 - 4:00 pm: **Judges preview** - **No Students at their exhibits**

3:30 - 5:00pm: Students & parents leave for lunch

4:00 - 5:00 pm: **Judges lunch & briefing**

5:00 - 7:00 pm: **Judging - All Students at their projects**

NOTE: Special awards judges: Companies providing special awards to student projects will list all eligible projects at the science fair. Winners from the list will be determined from overall rankings.

Wednesday, 4/26/2017

6:00 - 7:00 pm: Public viewing – all students at projects

7:30 - 8:30 pm: Awards ceremony (Dress appropriately)

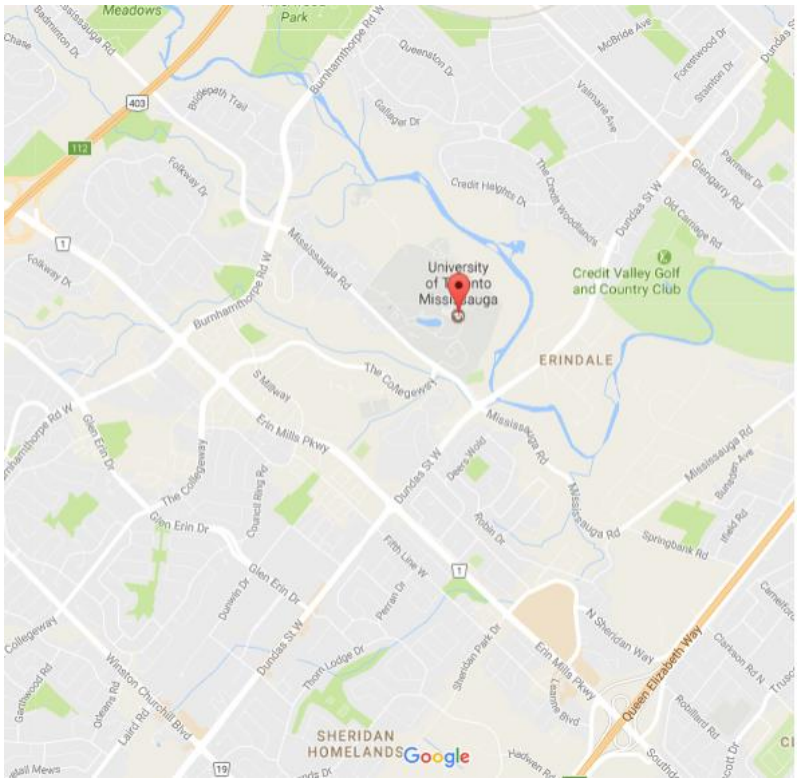
8:30 - 9:00 pm: Students take their projects home

Wednesday, 4/26/2017 (Immediately after Awards Ceremony)

Canada Wide Science Fair Team Meeting / Registration

University of Toronto at Mississauga

Directions:

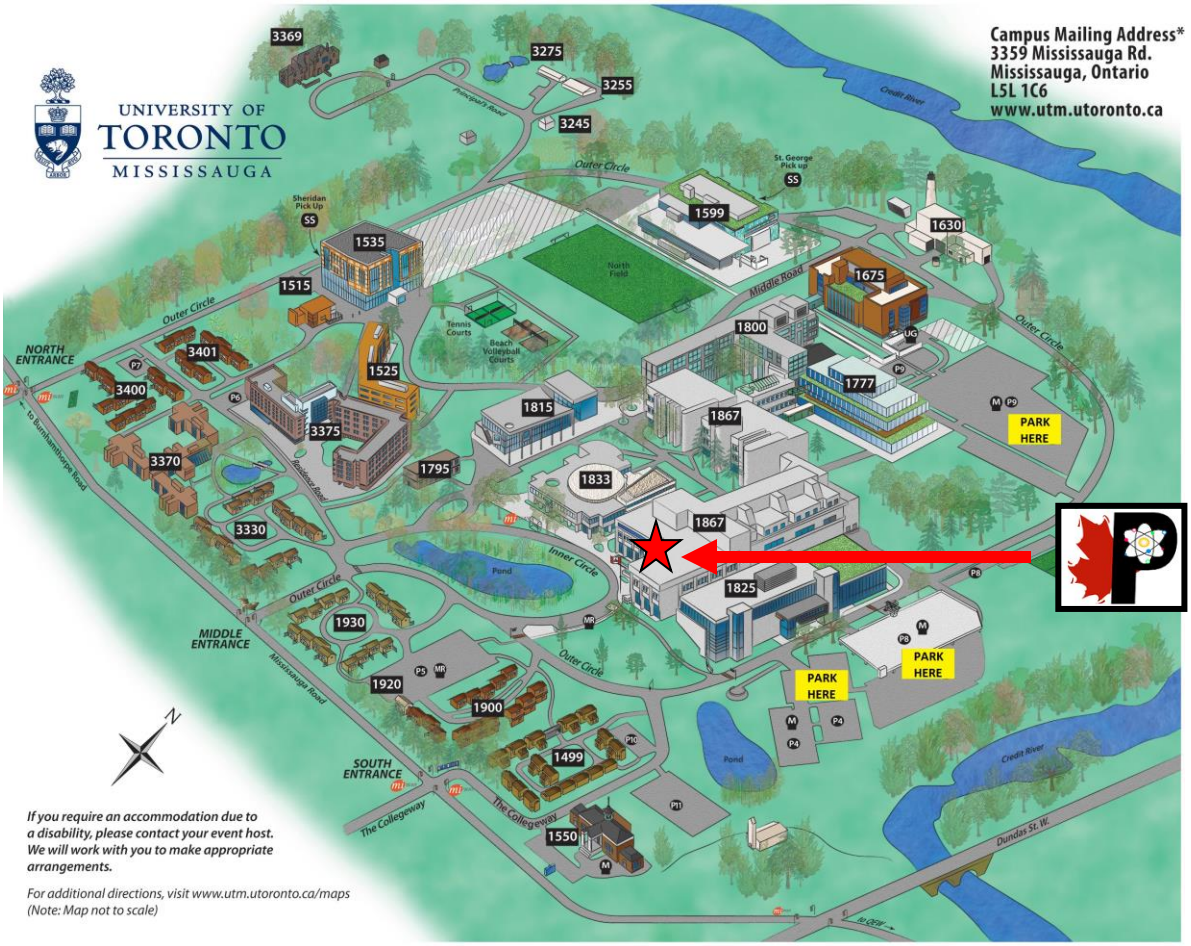


* UTM is north of Dundas St., south of Burnhamthorpe Rd. (Erin Mills Pkwy & Dundas St area).

Address:

3359 Mississauga Road, Mississauga, ON L5L 1C6

The PRSF will be held in the WG Davis building.



Parking:

UTM will designate a free parking lot for PRSF participants and judges. This information will be posted at peelscience.ca when it is confirmed. PRSF is not responsible for charges that result from parking infractions.