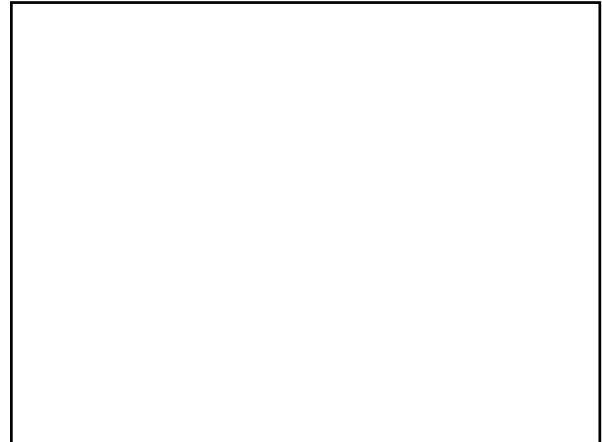




London District Science and Technology Fair

Date: Saturday 4 April 2009
 Time: Divisional Judges: 8:30 am
 Special Award Judges: 9:30 am
 Place: Althouse College

2-Apr-09 LDSTF Judges Orientation 1



Qualifications for a Judge

- Previous Judging Experience
 - Not required - we will train you via this workshop.
 - Post Secondary Education
 - Science
 - Engineering
- Experience in evaluating exhibitor work
 - Teacher, Teaching Assistant, Professor.
 - Senior Undergraduates
- Bilingual Judges are particularly welcome.
- No Projects presented in French this year.

2-Apr-09 LDSTF Judges Orientation 5

Facilitator

- Introduce yourself.
 - Where you come from, what you do.
- Ask the exhibitor to introduce herself.
- Listen respectfully to the presentation.
- Ask graded questions
 - stop when the limit of knowledge is reached.
- Find two things to praise.
- Give a full 15 minute interview.

2-Apr-09 LDSTF Judges Orientation 6

Motivator

- Focus on the exhibitors.
- Ask questions in an upbeat tone.
- Listen intently.
- Give lots of encouragement.
 - I liked ...
 - I enjoyed ...
- Thank them for sharing their project with you.

2-Apr-09

LDSTF Judges Orientation

7

Role Model

- You are
 - Judge
 - Scientist
 - Educational Leader
 - Business Leader
- You represent all of these aspects.
- Let the exhibitors say
That was a fantastic judging experience

2-Apr-09

LDSTF Judges Orientation

8

Counselor

- Use the Feedback to Exhibitors form.
- Find two things to praise.
- Make one suggestion for further improvement.
 - I suggest ...
 - A technique I have used...

2-Apr-09

LDSTF Judges Orientation

9

Evaluation Components

Item	Max Score %
Scientific Thought	45
Original Creativity	25
Visual Display	10
Oral Presentation	15
Scientific Notebook	5

2-Apr-09

LDSTF Judges Orientation

10

Judges must not...

- Convey by body language or otherwise a sense of dismay.
- Judge an exhibit seen elsewhere.
- Discuss their opinions in public areas.
- Treat this as a university examination.
- Judge an exhibit beyond their level of expertise. Contact the Division Chief for help.

2-Apr-09

LDSTF Judges Orientation

11

Elementary School Students

- Most judges will see only elementary school students.
- One of them may turn into one of the best young scientists in Canada.
- The three rules:
 - Encourage
 - Encourage
 - Encourage

2-Apr-09

LDSTF Judges Orientation

12

Before The Fair

- Read this presentation.
- Be sure you know if you are judging
 - First, Second, Third, Honorable Mentions
 - Special Awards.
- Visit the Judging web site:
 - <http://www.ldstf.ca/Judges.html>

2-Apr-09 LDSTF Judges Orientation 13



Divisional Judging

LDSTF Judges Orientation 14

Divisional Judging

- The Divisional Judging should be a highlight of the Fair for exhibitors.
- Judges work alone - mostly
- Projects will be judged four times
- Interviews will last 15 minutes.
- Judges will bring:
 - empathy, experience, erudition, expertise.
- Final decision is made by consensus.
- Revisit project(s), if necessary

2-Apr-09 LDSTF Judges Orientation 15

Divisional Timetable

8:30	Pick up folders
8:45	Meet in Division/Categories for final instructions.
9:00 – 11:00	Judging Round 1
11:00 – Noon	Pick projects for round 2. Write Feedback forms. Start Round 2 Judging
Noon – 1:00	Lunch in your Break Out Rooms
1:00 – 2:00	Finish Round 2 judging
2:00 – 3:00	Grand Awards Committee selects CWSF Job winners, Scholarship Winners
3:30 pm	Final results given to Chief Judge

16

Each Judge

- Visits each exhibit for 15 minutes.
 - Additional 5 minutes to record results.
- Judges six exhibits typically.
- Uses judging form to score your exhibits.
Use the scores to decide if A is better than B.
- Use rankings only in the next round.
- Round 1 Judging from 9:00 am – 11:00 am.

2-Apr-09 LDSTF Judges Orientation 17

Part A Scientific Thought 45%			
Experiment	Innovation	Study	Mark
Level 1 (Use) Mark Range 6 - 15			
Replicate a known experiment to confirm previous findings	Build a model or device to duplicate existing technology or to demonstrate a well-known physical theory or social/behavioural intervention.	Existing published material is presented, unaccompanied by any analysis.	6 7 8 9 10 11 12 13 14 15
Level 2 (Fair) Mark Range 16 to 25			
Extend a known experiment with modest improvements to the procedures, data gathering and possible applications.	Improve or demonstrate new applications for existing technological systems, social or behavioural interventions, existing physical theories or equipment, and justify them.	Existing published material is presented, accompanied by some modest analysis and/or a rudimentary study is undertaken that yields limited data that cannot support an analysis leading to meaningful results.	16 17 18 19 20 21 22 23 24 25
Level 3 (Good) Mark Range 26 to 35			
Devise and carry out an original experiment. Identify the significant variables and attempt to control them. Analyse the results using appropriate arithmetic, graphical or statistical methods.	Design and build innovative technology; or provide adjustments to existing technology or to social or behavioural interventions; extend or create new physical theories or equipment, and/or economic applications should be evident.	The study is based on systematic observations and a literature search. Appropriate analysis of some significant variable(s) is included, using arithmetic, statistical, or graphical methods. Qualitative and/or mixed methods study should include a detailed description of the procedures and/or techniques applied to gather and/or analyse the data (e.g. interviewing, observational fieldwork, constant comparative method, content analysis).	26 27 28 29 30 31 32 33 34 35
Level 4 (Excellent) Mark Range 36 to 45			
Devise and carry out original experimental research in which most significant variables are identified and controlled. The data analysis is thorough and complete.	Integrate several technologies, inventions, social/behavioural interventions or design and construct an innovative application that will have human and/or commercial benefit.	The study correlates information from a variety of peer-reviewed publications and from systematic observations, and reveals significant new information, or original solutions to problems. Same criteria for analysis of significant variables and/or description of procedures/techniques as for Level 3.	36 37 38 39 40 41 42 43 44 45

Part B: Original Creativity 25%

Rank 1 (Low) Mark Range 6 to 10	Rank 2 (Fair) Mark Range 11 to 15	Rank 3 (Good) Mark Range 16 to 20	Rank 4 (Excellent) Mark Range 21 to 25
The project design is simple with little evidence of student imagination. It can be found in books or magazines.	The project design is simple with evidence of student imagination. It uses common resources or equipment. The topic is a current or common one.	This imaginative project makes creative use of the available resources. It is well thought out, and some aspects are above average.	This highly original project demonstrates a novel approach. It shows resourcefulness and creativity in the design, use of equipment, construction and/or the analysis.
6 7 8 9 10	11 12 13 14 15	16 17 18 19 20	21 22 23 24 25

2-Apr-09 LDSTF Judges Orientation 19

PROJECT EVALUATION SUMMARY

	MAX	MARK
PART A Scientific Thought (from page 1)	45	
PART B Original Creativity (from page 1)	25	
PART C Visual Display	8	
PART D Oral Presentation	8	
PART E Project Report and Project Log	14	
TOTAL MARK AWARDED TO THIS PROJECT		

2-Apr-09 LDSTF Judges Orientation 20

Ranking the Projects

- Most challenging part of the task
- Write all project numbers on the blackboard
- Have each of the four judges rank it from 1 to 6
- Add the rankings. Low score is best.
- Discuss until you reach consensus.
- Visit the top ones in round 2 – 1:15 pm onwards
- Be finished by 2:15 pm.
- Junior Individual and Junior Groups are judged separately

2-Apr-09 LDSTF Judges Orientation 21

Exhibitor Feedback Sheets

- Very important part of the Fair
- Sort Marking sheets by project number
- One judge synthesizes the comments from all 4 judges.
- Find two things to praise.
- Point out areas that need improvement.
- Suggest possible further work.

2-Apr-09 LDSTF Judges Orientation 22

Congratulations on your participation in the London District Science & Technology Fair. We offer here some comments by the judging team that we hope will be useful and helpful. We much enjoyed the time we spent with you, and we wish you all success in the future.

Félicitations pour cette place méritée à l'exposition du district de London de science et technologie. Vous trouverez ci-joint quelques commentaires de l'équipe de juges et nous espérons qu'ils seront bénéfiques et utiles. Nous avons beaucoup apprécié le temps que nous avons passé avec vous et nous vous souhaitons du succès pour l'avenir.

Strengths:

Recommendations:

23

Selection of Awards Recipients

- Takes place between 11:00 am and noon and after lunch if necessary
- Visit all exhibits selected for this round.
- Decision is by consensus.
- Award first place unless there is a very good reason for withholding it.
- Be generous with Honorable Mentions.

2-Apr-09 LDSTF Judges Orientation 24

Division & Category Final Results

Rank	Medal Médailles	Project Number Numéro du projet	Title (Abbreviated) / Titre (abrévié)
1	First		
2	Second		
3	Third		
4			
5			
6			
Max. Hon. Men. / Men. Hon. Max: 15%			
7			
8			
9			
10			
11			
12			
13			
14			

Fill in all the columns!!

2-Apr-09 LDSTF Judges Orientation 25

- ### Sample Questions: Intermediates and Seniors
- Why did you decide to study this topic?
 - What are your controlled variables?
 - How accurate are your readings?
 - 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?
 - Who helped you with this project?
- 2-Apr-09 LDSTF Judges Orientation 26

- ### Sample Questions - Specific
- What is the wavelength of your laser?
 - What is an “elastic” collision?
 - What is the chemical formula for glycerin?
 - What is chlorophyll?
 - What is diffraction?
 - Why is the Greenhouse Effect so called?
- 2-Apr-09 LDSTF Judges Orientation 27

- ### Minimum Standard for a First Place
- The project is usually above the show and tell level.
 - The analysis and conclusions presented are appropriate, and based on the data;
 - The student has some knowledge of the background and theory relevant to the project.
 - There are no glaring errors in the project.
- 2-Apr-09 LDSTF Judges Orientation 28

- ### Special Awards
- Special Awards Chair: Spencer Seiler
- A team of Judges will be assigned to each Special Award.
 - The results are to be given to the Special Awards Chair as soon as they are available.
- 2-Apr-09 LDSTF Judges Orientation 29

- ### Special Award Judging Team
- Minimum of 2 Judges assigned to each.
 - Judge each exhibit for 8-10 minutes max.
 - Revisit the projects on short list, if necessary.
 - If you are finished early, please be available to judge another award.
- 2-Apr-09 LDSTF Judges Orientation 30

Report your Special Award Results

- Fill in your winners plus a further 50% of choices – some exhibitors may decline a specific award.
- Give in full:
 - Exhibit Number
 - Name(s) of exhibitors
 - Exhibit Title.
- The Team Captain signs the report.
- Give it to the Special Awards Chair.

2-Apr-09 LDSTF Judges Orientation 31

Spread the Wealth

- It is the Policy of the LDSTF to Spread The Wealth, and limit the number of awards given to one project. Thus the Chief Judge reserves the right to give an award to your second choice should one project end up with multiple awards.

2-Apr-09 LDSTF Judges Orientation 32

Special Awards Final Results

Sponsor: _____

Criteria: _____

Award: _____

Please list in order of merit the top five exhibits observed.

Results			
	Name	Exhibit Number	Project Title
1			
2			
3			
4			
5			

2-Apr-09 LDSTF Judges Orientation 33



FAQ 1

- We don't think a First Place should be awarded

Response

- Awarding a First Place is highly desirable.
- This is a relative competition. The Olympic speed skater who did not fall won the gold in one race.
- BEFORE recommending that no award be made, you MUST consult:
 - the Division Head,
 - the Judge in Chief

2-Apr-09 LDSTF Judges Orientation 35

Minimum Standard for a First Place

- The project is at Level Two or higher of Scientific Thought on the Judge's Marking Sheet;
- The analysis and conclusions presented are appropriate, and based on the data;
- The student has some knowledge of the background and theory relevant to the project.
- There are no glaring or significant errors in the project.

2-Apr-09 LDSTF Judges Orientation 36

FAQ 2

Can we award two First Places?

Response

- No.
- Each Division is sponsored at a total \$ value, and we do not have the reserves to award more prizes.
- It is awkward at the Awards ceremony when some students get plaques and others do not.

2-Apr-09

LDSTF Judges Orientaion

37

FAQ 3

We have five contenders for a Third .

Response

- If you are having trouble reaching a decision, consult:
 - Division Head
 - Judge in Chief

2-Apr-09

LDSTF Judges Orientaion

38

FAQ - 5

- Can I give a Senior Special Award to an outstanding Intermediate Student?

Response

- No.
- Each award's sponsor provides particular criteria so the award is only open eligible projects.

2-Apr-09

LDSTF Judges Orientaion

39

Body Language

- The following slides show various ways a judge might convey non-verbal information.
- Which is the most appropriate?

2-Apr-09

LDSTF Judges Orientaion

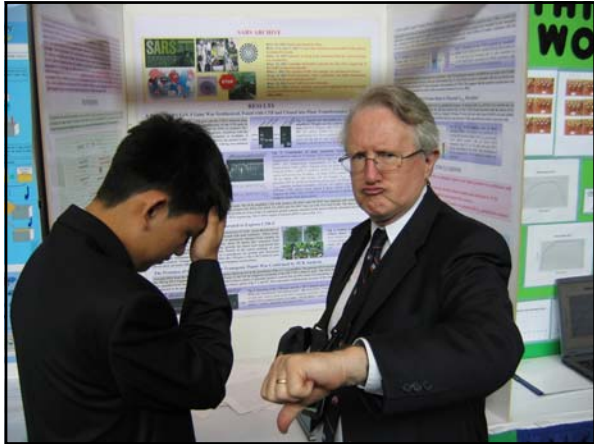
40

**OOPS 1**

2-Apr-09

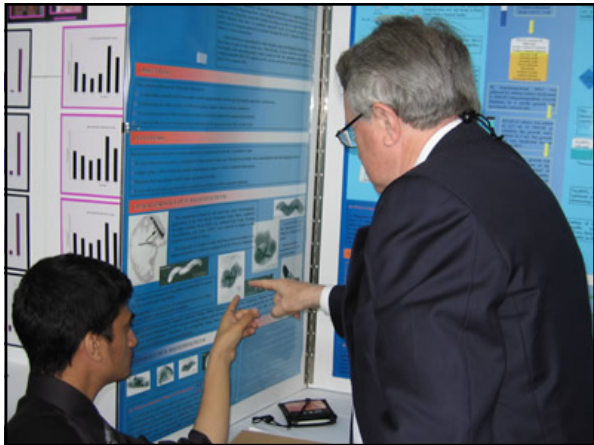
LDSTF Judges Orientaion

42



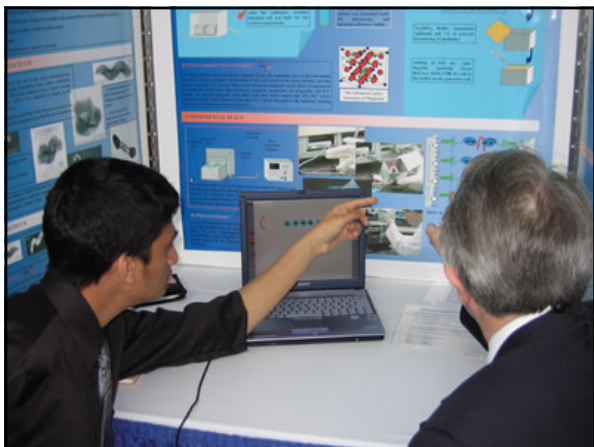
OOPS 2

2-Apr-09 LDSTF Judges Orientation 44




OOPS 3

2-Apr-09 LDSTF Judges Orientation 46




Best

2-Apr-09 LDSTF Judges Orientation 48




Body Language

Which do you Prefer?



2-Apr-09 LDSTF Judges Orientation



Fatal Attraction


- A young judge, after the judging was finished, attempted to set up a date with one of the participants.

What does the Chief Judge do?

Judges may not contact school students outside their role as judge

2-Apr-09 LDSTF Judges Orientation 50


A Pressure Situation



A high pressure boiler constructed by the finalist was not professionally inspected as required by Provincial Statute, and therefore was deemed a severe safety hazard by one of the judges, an engineer. This problem was not identified by the safety committee of either the Regional Science Fair,

What does the Chief Judge do?

2-Apr-09 LDSTF Judges Orientation 51



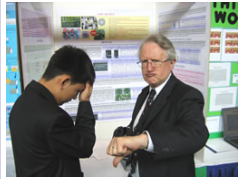
Double Trouble

A project done by a junior student involved the use of double propellers, i.e., two on the same shaft, showed a maturity far beyond that expected of a student of this age. The final conclusion, that the double propeller system enhanced the torque available from the wind, was wrong, because one judge, an expert in this area, knew that the turbulence from the first propeller destroyed the flow of wind round the second.

Is this worth a First, Second Third, an Honorable Mention or nothing at all?

2-Apr-09 LDSTF Judges Orientation 52

Case Studies: "Misjudgment"?



One judge was brusque; another was 10 minutes late and the interview was cut off; and the students believe that no one on the judging team had the expertise required to judge their project properly.

In the afternoon, a teacher called the Chief Judge out of the judging room to say that two of her students are very upset about the morning judging.

What does the Chief Judge do?

2-Apr-09 LDSTF Judges Orientation 53

Acknowledgements

We wish to thank these participants who have allowed elements of their superb science fair projects to be used in this workshop.

- Kartic Madiraju - Montreal
- David Wang – London

We acknowledge the contributions of the Bay Area Science & Engineering Fair on whose work this workshop is partially based.

2-Apr-09 LDSTF Judges Orientation 54



Acknowledgments

- Past Chief Judges.
- Bay Area Science and Engineering Fair
– <http://www.basef.mcmaster.ca>

2-Apr-09

LDSTF Judges Orientation

55