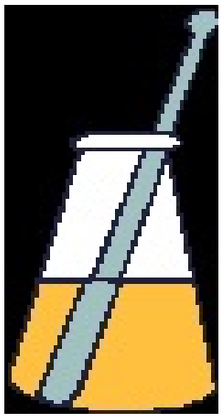
Judging ***Criteria***
Eliot River School Science Fair



Judging ***Criteria*** Eliot River School Science Fair

Welcome judges. Here are some guidelines to follow.

1. Science Fair judges use the following marking scheme: \ Scientific thought Originality and creativity \ Skill \ Dramatic value Project description

2. The judges' decision is final.
3. Exhibitors must be present during judging sessions.

The judges may interview exhibitors and ask them to operate their projects.

Scientific Thought

The judges fit the project into one of three criteria:
1. An experiment
2. A study
3. An innovation

The marks for scientific thought are tied to the level of the project. The top projects in the Science Fair are usually drawn from level four projects-those that attempt to answer a question in an experiment designed to take in all important variables, a study correlating information from a variety of significant sources, or a unique invention or innovative use of existing technologies. Judging is biased toward the experimental methods used in levels three and four.

A full description for mark allotment for Scientific thought is shown on page three of the "Judging Booklet".
This marking scheme will be used primarily for the Intermediate (7-9) and Senior'(10- 12) categories because this is the scheme adopted for the Canada-wide Science Fair, but will be relaxed to some extent for the Junior category (4-6) so as not to discourage budding young scientists.

Note: Most projects at this level *are* experiment or study.

Skill

The judges will look for the following scientific qualities and skills:

1. Data expressed in scientific way. Does the student understand the scientific vocabulary used in the project?

2. Are the conclusions consistent with problem?

3. Was there effective planning of the project?

4. Was there adequate data to support the conclusions?

5. Was there skillful and independent construction of equipment? To what extent does the project and exhibit represent a product of the student's own skills?

Originality and creativity

1. is the problem original?

2. Is the approach to solving the problem original.

3. Does the interpretation of the data show originality?

4. Has the equipment been used in an original way.

5. Is the construction or design of the equipment original? Note: Judges must consider whether something is original for students in the intermediate and senior categories.

They are original if they support an investigation and help answer a question in some creative way

Dramatic Value

1. Is it an attractive exhibit where title, purpose, procedure, results and conclusions are clearly displayed?

2. Is the lettering readable?

3. Is the lay-out logical and self-explanatory?

4. Did they use a multi-sensory approach?

Project Description

A. Interview

1. Clear concise presentation.

2. Questions answered adequately.

3. Appropriate scientific vocabulary.

4. Understands topic.

5. Enthusiastic presentation

6. Aware of possible project extensions

B. Write-up

1. Neat written report summarizing the project

2. Neat log book with dates and rough results etc. (if applicable)

Note: Keep in mind that some students in the Junior category are first time exhibitors. it would benefit these students if you take time to explain good strategies for their next project.

Thanks so much for your help.

A GUIDELINE FOR SCIENTIFIC THOUGHT JUDGING (MAXIMUM 45 MARKS)

EXPERIMENT TYPE OF PROJECT

DEFINITION; An investigation undertaken to test *s.* specific hypothesis using experiments. Experimental variables, if identified, are controlled to some extent.

EXPERIMENT Level 1 Duplication of a known experiment to confirm the hypothesis. Hypothesis is totally predictable. 5+ 1,2, 3, 4. S, 6, 7, 8, 9 or

STUDY TYPE OF PROJECT

DEFINITION: A collection and analysis of data to reveal evidence of a fact, situation or pattern of scientific interest. It could include a study of cause and effect relationships or theoretical investigations of scientific data. Variables, if identified, are by their nature not feasible to controE, but an effort to make meaningful correlations is encouraged.

STUDY Level I
Study of existing printed material related to the basic issue. 5+1,2, 3,4, 5,6, 7,8, 9 or 10

INNOVATION TYPE OF PROJECT

DEFINITION: Involving the development and evaluation of innovative devices, models or techniques or approaches in fields such as technology, engineering, or computers (both hardware and software) INNOVATION Level I Building models (devices) to duplicate existing technology.

EXPERIMENT Level 2 Extend a known experiment through modification of procedures, data gathering and application.

EXPERIMENT Level 3 Devise and carry out an experiment with an original approach or design. Variables are identified, ftnmiy significant variables are controlled. Data analysis includes graphic presentation with simple statistics.

STUDY Level 2 Study of material collected through compilation of existing data and through personal observations. Display attempts,to address & specific issue. 15 + 1, 2, 3, 4, 5, 6, 7, *^9 or 10

STUDY Level 3 Study based on observations and literary research illustrating various options for dealing with & relevant issue. Appropriate arithmetic, graphical or statistical analysis in relation to some significant variabieis). 25+ 1, 2,3, 4, 5,6, 7, S, 9 or 10

EXPERIMENT -Level 4 Devise and carry out original experimental research which attempts to control or investigate most significant variables. Data analysis includes statistical analysis.

STUDY Level 4 Study correlating information from a variety of significant sources which may illustrate cause and effect or original solutions to current problems through synthesis. Significant variabfe(s) identified with in-depth statistical analysis of data. 35 + I, 2, 3,4, 5, *6,* 7, 8, 9 or 10

INNOVATION Level 2 Make improvements to, or demonstrate new applications for existing technological systems or equipment and be able to justify them. 15 + I, 2, 3,4, 5, *6, 7,* 8, 9 or 10

INNOVATION Level 3 technology or provide; adaptations to wasting technology that will have economic applications and/or human benefit. 25 +• I, 2, 3, 4, 5, 6, *1,* 8. 9 or 10

INNOVATION Level 4
technologies- inventions or designs and construct an innovative technological system that will have commercial and or human benefit. Testing where applicable with statistical analysis.