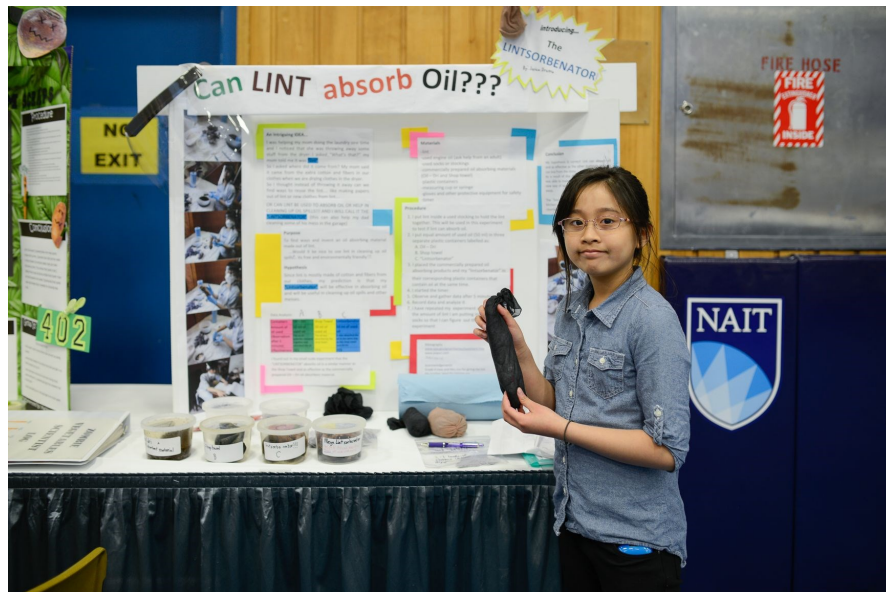


Science Fair Project Information Booklet

How to prepare and present

An Experiment

(Testing a Question)



What is an experiment?

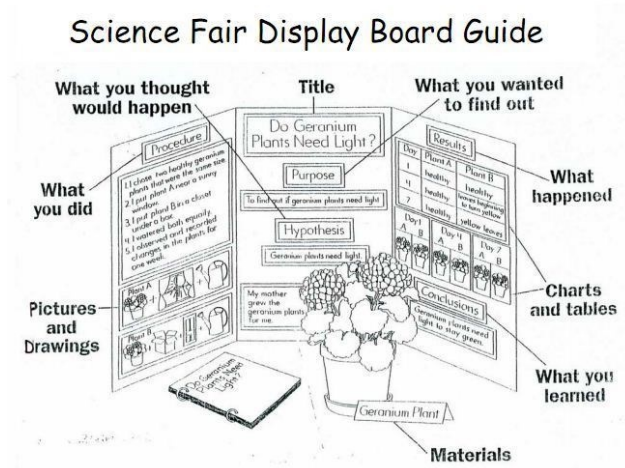
An experiment means that you are **doing a test**. You have a scientific question and you are doing some tests to answer your question. In other words, you are using the scientific method and you are testing a hypothesis. You have variables. You have a logbook where you keep track of your tests and all the steps you take while doing your testing. If you are do all of these things, then you are doing an experiment.

Some ideas for questions might be:

- ◇ Can you make Jell-o using fresh pineapples instead of canned pineapples?
- ◇ Do white candles burn at a different rate than colored candles?
- ◇ Does the shape of an ice cube affect how quickly it melts?
- ◇ Do different brands of popcorn leave different amounts of unpopped kernels?
- ◇ Do all brands of bubble gum make the same size bubble?
- ◇ Do all dishwashing detergents produce the same amount of bubbles? Clean the same number of dishes?

When you are done your experiment, you need to create a display board. Your display board should have the following information:

- * Purpose
- * Hypothesis
- * Variables
- * Materials
- * Method/Procedure
- * Data/Results
- * Conclusion
- * References



<http://fayettein.faycentral.schoolsde.net/Links/ScienceFairMaterials/tabid/15291/Default.aspx>

You also need to have a log book and it is always a good idea to have pictures, graphs, diagrams, and/or models to help explain your experiment.

For more information on what an experiment is, you can check out the links below.

- <http://www.sciencefairinfo.ns.ca/theblog/2008/02/11/preparing-for-science-fairs-example-project-experiment/>
- <http://www.ersf.ca/project-information/project-types>
- <http://www.cysf.org/forms/logbooks.pdf>

What will the judges be looking for?

The judges will want to see that you have done an experiment. They will be looking at how well you used the scientific method and how well you understand the science behind your activity.

You will be judged on three different things:

Experiment An investigation undertaken to test a scientific hypothesis experimentally.			
PART A: SCIENTIFIC THOUGHT - 45%			
Level 1 (low)	Level 2 (fair)	Level 3 (good)	Level 4 (excellent)
Duplicate a known experiment to confirm the hypothesis. The hypothesis is totally predictable.	Extend a known experiment through modification of procedures, data gathering, and application.	Devise and carry out an original experiment. Identify and control some of the significant variables. Carry out an analysis using graphs or simple statistics.	Devise and carry out original experimental research which attempts to control or investigate most significant variables. Include statistical analysis in the treatment of data.
PART B: ORIGINALITY/CREATIVITY - 25%			
Level 1 (low)	Level 2 (fair)	Level 3 (good)	Level 4 (excellent)
Little imagination shown. Project design is simple with minimal student input. A textbook or magazine type project.	Some creativity shown in a project of fair to good design. Standard approach using common resources or equipment. Topic is a current or common one.	Imaginative project, good use of available resources. Well thought out, above ordinary approach. Creativity shown in design and/or use of materials.	A highly original project or a novel approach. Shows resourcefulness, creativity in design. Use of equipment and/or construction of project.
PART C: VISUAL DISPLAY/LOGBOOK/PRESENTATION - 30%			
Level 1 (low)	Level 2 (fair)	Level 3 (good)	Level 4 (excellent)
Little imagination shown. Project display is simple with minimal student effort visible. Data analysis is missing or incomplete. Board may contain errors. Logbook is missing or incomplete. Oral presentation characterized by a lack of understanding.	The visual display is fair to good. Data analysis is present. Some information may be missing from the board and there may be limited use of diagrams and models. The board may also contain errors. Logbook entries are limited and some information may be missing. It may simply be a reprint of the information on the board or printouts of background information. Oral presentation was shorter and somewhat limited. Students does not demonstrate a solid understanding of the scientific concepts involved.	A visually appealing display. Layout it logical and self-explanatory. Data analysis is clearly presented. Diagrams and models used appropriately and the board is essentially error free. Logbook is well organized and contains relevant and required information. Logbook is more than a copy of the material on the backdrop and is not simply information printed off the internet. Oral Presentation was confident and thorough. Scientific information is clearly explained demonstrating understanding on the part of the student.	The display is striking and creative. The layout is appealing, logical and effective. Data analysis is thorough and well presented with appropriate graphs, tables, diagrams, and models included. Writing is error free. Logbook is detailed, very organized and contains all relevant and required information. It add to the visual display in terms of content. Oral Presentation was engaging, detailed, and confident. Clear and deep understanding of the scientific content is evident on the part of the student.