

Science Fair Project Information Booklet

How to prepare and present

A Study

(Doing some Research)

Westlock Local
Science Fair



What is a study?

A study means that you are doing research on a topic that interests you. You have a question that you are trying to answer by doing some research. In the end, you present a collection and analysis of data to reveal evidence of a fact or a situation of scientific interest. In a study, you may want to look at a question that you are unable to actually test. This could include a study of cause and effect or theoretical investigations of scientific data.

Some example questions for a study might be:

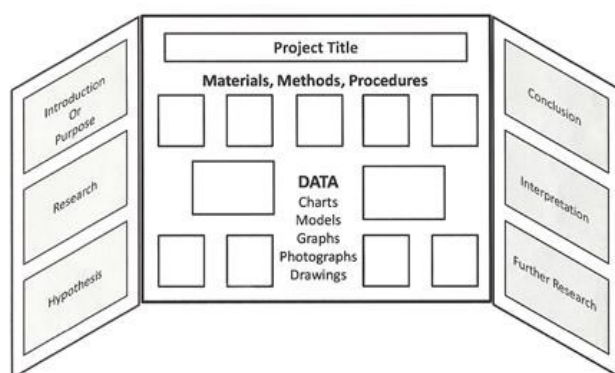
- ◇ How long will it take the earth to be destroyed if it was hit by an asteroid?
- ◇ Does lung cancer affect men more than women?

You should still formulate a hypothesis, such as men are more likely than women to have cancer (perhaps because they have heard that more men smoke than women or work in hazardous environments), and be able to produce observations that support or do not support your hypothesis. In the study project, data is collected from published observations and used to formulate a conclusion.

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

- * Purpose
- * Hypothesis
- * Method/Procedure
- * Data/Results
- * Conclusion
- * Impact/Further Research
- * References/Acknowledgements

Material normally included on a typical project display board



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 research.

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-study/>
- <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 thoroughly researched a question and come to understand the science that either supports or disproves your hypothesis.

You will be judged on three different things:

<h2 style="margin: 0;">Study</h2> <p style="margin: 0;">A collection and analysis of data to reveal evidence of a fact or a situation of scientific interest.</p>			
PART A: SCIENTIFIC THOUGHT - 45%			
Level 1 (low)	Level 2 (fair)	Level 3 (good)	Level 4 (excellent)
Study existing printed material related to the basic issue.	Study material collected through a compilation of existing data and through personal observations. Display attempts to address a specific issue.	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).	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
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.