

## How to Conduct a Science Fair Project

- 1. Title:** The title should be short enough to fit on your display board. It should be catchy enough to attract the attention of judges.
- 2. Purpose:** The problem/question for which you are seeking a solution. This can be a question or a statement. Examples: Does temperature affect fermentation? Does light affect plant growth?
- 3. Research:** The process by which you gather information about your problem by consulting libraries, instructors, professionals, the internet or scientific organizations. Research helps you plan and organize your experiment. Helps you formulate your hypothesis.
- 4. Hypothesis:** A hypothesis states what you think is going to happen when you investigate a problem/question. It is your educated guess about the solution to the problem/question. **Do not use I when stating your hypothesis.** Most of the time a hypothesis is written like this: "If \_\_\_\_\_ [I do this] \_\_\_\_\_, then \_\_\_\_\_ [this] \_\_\_\_\_ will happen." (Fill in the blanks with the appropriate information from your own experiment.)  
**Example:** "If a plant receives fertilizer [having fertilizer is the independent variable], then it will grow to be bigger than a plant that does not receive fertilizer [plant size is the dependent variable]."
- 5. Materials:** A list of all substances and equipment used in your experiment. **Be sure to use the metric system.** Use cm not inches, ml not cups, C not F  
Examples: 500 ml of distilled water  
a balance  
pH meter  
25 C
- 6. Procedure:** This describes the experiment you performed to test your hypothesis. It consists of a list of numbered steps. **Be sure you use the metric system.** Make sure to include a **control** group or a comparison group in your experiment. Repeat your experiment at least 3 times to insure validity. Run many samples if possible.

- 7. Results/Data:** Observations and measurements that you record in your **log book** while conducting your experiment. Dated entries should be made in the log book during the experimental period. Pictures should be taken and entered in your log book. Upon completion of the experiment, consolidate your observations, measurements in neat **tables**. **Graph** your results. For more information about the log book, setting up a graph or tables, see pages in the manual on web.
- 8. Analysis/Conclusion:** The conclusion is the proof or disproof of your hypothesis. Discuss your results. Describe any problems or unusual events that occurred during your investigation. Point out important trends, results on your tables or graphs. What did your project teach you? What would you do differently next time.
- 9. Write Abstract:** This is a summary of your completed research project. It is limited to 250 words and must be double spaced and in 12 font. You need a copy on your display board and three copies for the table. See an example of an abstract on web page.
- 10. Display Board:** This is the easy part of the project. Be creative and neat. See web site for model.
- 11. Celebrate:** Your project is complete. Be proud of your work, happy with the job you did and anxious to talk about your project with others, perhaps even compete in other science competitions (MONTCO, PJAS).

