

Science Fair – Wednesday, May 24, 2023

Guidelines

A Science Fair is intended to expose students to the wonders of science in the world around them. It is our hope that it will encourage the pursuit of science through their school years and beyond. We believe that the students will learn the steps of the Scientific Method by engaging in real scientific experiments.

Once students have chosen their experiments, they should read them thoroughly, developing questions and considering potential problems. Students should have a clear concept of what they are attempting to do in the experiment. Parents and teachers are to assume the role of resources, answer questions and assist in reasoning through difficult steps. It is of utmost importance that the line of communication between student, teacher & parent be cohesive.

An experiment can be done to perfection. It is student knowledge and understanding of what they are doing that increase the possibilities of success and placement. Thus, if the materials are poorly displayed, the project will not receive the recognition it deserves.

The Scientific Method is a step-by-step procedure which is used to determine the answer to a scientific question. These are the six steps involved:

1. **Purpose (problem)** – What you want to find out – (stated in a clear and concise manner)
2. **Hypothesis** – What you think will happen. (The hypothesis is an educated guess which provides a direction to the experimental process. A hypothesis can be proved or disproved.)
3. **Materials** – The materials stated will include all the items that are needed for the experiment.
4. **Procedure** – What you did. (List a step-by-step explanation of the experimental process with appropriate details.)
5. **Results** – What happened (should be written in the form of observations)
6. **Conclusion** – What you learned (It is drawn by looking at the results and comparing them with the hypothesis.)

*Remember to include the Date Notebook/Booklet.

Presentation and Evaluation: The student will give an oral presentation of his/her project for the judges. It should be short, but complete. You want to do your best, so prepare and then practice, practice, practice. Points are given for how clearly you are able to discuss the project: explaining its purpose, procedure, results and conclusion. The display should be organized so that it explains everything. However, the student's ability to discuss the project and answer the questions of the judges convinces them that the student did the work and therefore gained knowledge and understanding of the assignment and their chosen project. It is advised that students practice their intended presentation in front of friends and family. In addition, invite them to ask questions. If the answer is unknown do not guess nor make up an answer.

Attire: School dress uniform. Be neat and polished!

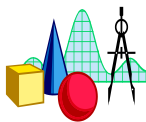
Safety: Anything that is or could be hazardous to other students or the judges is prohibited and cannot be displayed. Project topics should be approved by your teacher before you begin. This will prevent wasted time and efforts made on an unsafe project that would be disqualified.

The Display: It must be on a display board, at least 48 inches wide, 30 inches deep and 36 inches high (including the table they stand on). The title and other headings should be neat and large enough to be read at a distance of about 3 feet. Develop a display that the judges will remember positively. Students are encouraged to lay the board on a flat surface and arrange the materials a few different ways before permanently attaching items. This will help you decide on the most suitable and attractive presentation.

Steps to prepare a Science Fair project:

1. **Select a topic:** Remember a Science Fair project is a test to find an answer to a specific question, not just showing what you know about something.
2. **Gather background information:** Gather information about your topic from books, magazines, people and companies. Keep notes about where you got your information.
3. **Scientific Method:**
 - a. Purpose (problem) – What you want to find out – (stated in a clear and concise manner)
 - b. Hypothesis – What you think will happen. (The hypothesis is an educated guess which provides a direction to the experimental process. A hypothesis can be proved or disproved.)
 - c. Materials – The materials stated will include all the items that are needed for the experiment.
 - d. Procedure – What you did. (List a step-by-step explanation of the experimental process with appropriate details.)
 - e. Results – What happened (should be written in the form of observations)
 - f. Conclusion – What you learned (It is drawn by looking at the results and comparing them with the hypothesis.)
4. **Run controlled experiment and keep data:**
 - a. Do the experiment as described above.
 - b. Keep notes in one place – data notebook/booklet.
 - c. Write down everything you can think of, you might need it later.
5. **Graphs and Charts:**
 - a. What happened?
 - b. Answer that question and put the results in graphs and charts.
 - c. Collect enough data to make a conclusion and use only data collected to make a conclusion.
6. **Construct an exhibit or display:**
 - a. It has to be neat, but it does not have to be typed. Make it fun, but be sure people can understand what you did.
 - b. Show that you used the scientific method.
7. **Write a (short) report:**
 - a. Tell the story of your project.
 - b. Tell what you did and exactly how you did it.
 - c. Include a page that shows where you gathered background information.
 - d. It can be 2 pages or more.
8. **Practice presentation to judges:**
 - a. Practice explaining your project to someone (parent, friend, grandparents, etc.)
This will help build up confidence for Science Fair Day.

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and become more."*