

How to design a science fair project

What is a Science Fair project? A science project can investigate a question or demonstrate a scientific principle (like gravity or photosynthesis). Not all Science Fair projects need to be an experiment. Your project can display a collection, present what you learned about a topic, or include building a model (yes, you can build a volcano!).

If your child is interested in astronomy, she could design a model of the solar system, or a chart of constellations. A collection of rocks—identifying each rock, and offering other interesting information—would be a great display. Gathering information about the most common eye color at school, then putting the results in a chart, would be terrific.

If you're planning an experiment, use the scientific method to guide the process:

Brainstorm: First, help your child think about a topic that interests her. Guide your child to explore her natural interests while keeping the project manageable & fun. Try some "I wonder what would happen if....?" or "I wonder how....?" discussions.

Research: Once you have a general topic, find out what your child already knows about it. Part of the fun of a science project is learning something new—making a guess and then testing it. So if your child already knows a lot about a topic, challenge him to find a new angle. Have your child visit the Lane's MRC, the Hinsdale Public Library or the Internet to research the topic and expand his knowledge base. Once your child has decided on a project, fill out the registration form and return it to school by January 11.

Hypothesize: Once you have an experiment in mind, have your child make a good guess about what is going to happen. In other words, develop a hypothesis.

Experiment: Then let the experimenting begin! This is the most exciting part of the process for your child. It will be in your best interest if you invest time to plan the experiments—or even do a trial run if you think you need it.

Get the data: Some experiments may be done in an afternoon, while others may require your child to collect data for a while. If you are watching the daily position of the moon rise, make sure your child is recording each day's information. Parents can be the ghost writer for younger children.

Reach a conclusion: Hopefully your experiments will lead your child to a conclusion, or answer his original question. The conclusion is merely the statement of what your child learned as a result of doing the experiment. Remember that sometimes we learn more when an experiment doesn't go as expected! And also remember that one experiment may not be able to answer the question completely, but may lead to additional experiments. That's the scientific process at work!

Displaying the results:

We'll provide each participant with a 24" X 32" white, tri-fold board—the staple of science fairs. Attached are suggestions about how to organize the material on the board. Use illustrations, photographs, charts, tables, graphs as well as written descriptions of the project. Be sure to give proper credit on the display (e.g., "Dictated by Bob. Typed by Bob's Mom. Assistants: Bob's Dad and Dog Max").