

# What Makes a Good Project?

As kids and parents think about Science Fair projects, they sometimes wonder how to pick a topic - not how to find an idea, but how to decide if the idea is a good one.



Here are some thoughts:

1. Find a topic in which you are interested. One that is something you like to think about.
2. Can you do a test to find an answer to a question? **A good Science Fair project is an experiment** - that means it's a test to find an answer to a question you have. For example, if you are interested in insects and you saw some ants moving slowly on a cold day, you want might test to see what effect temperature has on the rate at which bugs move. You'd get some insects; find a way to make their container a little colder than normal, and measure how fast they moved somehow. Then you'd make their container a little warmer than normal and measure what happened then.

Don't do demonstrations or simple reports - those don't use the scientific method. They are just showing what you know about something. For example, a diagram or model of something with no test/experiment shows information already known. Science is about solving problems and communicating the results to others.

3. Can you do it with only a little help from parents, teachers and friends? The reason to do a project is because it is fun and you will learn something you didn't know before. Having someone else help too much, takes away some of your fun and you don't learn as much. Your project doesn't have to be perfect, just neat and following a logical approach to problem solving sometimes called the scientific method. Don't be afraid to ask for help if you really need it.
4. Does it hurt or scare people or animals, including you? This is not just a bad idea,

but it is also against the rules of our science fair and of the regional science fair, to hurt or badly scare people or animals as part of an experiment. You also may not use dangerous materials in your project except in very special situations when you get permission from the coordinators. Ask advice about this from your parents and teacher.

5. When you are done, is it a project that makes you think of new things you want to know? One way to tell if you have a good project is to see if the results make you wonder about other things. Did doing the project, or reading, or seeing what happened, make you think of other questions? That makes a great project!

## How to Develop a Good Science Fair Project:

1. Start with a **question** - not a project from a book. This question will help you state your purpose.
2. Now use books and other things to research how others have studied your question. Save copies of your research to share.
3. Decide how to change just **one thing** about your study. This is your variable. Everything else stays the same. Have just one variable.
4. **Predict** the effect of the change. This is a hypothesis.
5. Develop a procedure, in steps, to test the hypothesis.
6. Find a way to **measure** the effect of the change (data).
7. **Repeat** the experiment and find averages of the trials.
8. Try running your experiment without changing your variable to check the results. This is your control.
9. **Summarize** what happened using only the most important data and your purpose (conclusion).
10. **Communicate** your findings with others as at a Science Fair.