



## Tips for Involved Parents and Students

*Did you know that some of the most famous scientists actually got their start in research as a student participating in Science Fair? Participating in Science Fair is a great way to master your science content and research skills, and you'll have opportunities to earn scholarships and awards from leading scientific companies. You can increase your potential to earn recognition in a Science Fair by following these tips:*

### **Getting Started:** **Selecting a topic**

The first thing you need to do is identify something in particular to investigate. Look around your house, your school, your yard, and places you and your family or friends spend time. Ask yourself how things you observe in your surroundings work—and if you could investigate ways to make it work better or differently. Science fair topics are often in the form of a question.

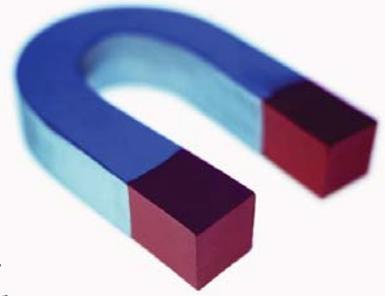


# Tips for a super Science Fair project

### **Next Steps:**

### **Identifying variables and writing a hypothesis**

Once you have a topic to investigate, it's helpful to identify your variables. A good Science Fair project focuses on one independent/manipulating variable and one dependent/responding variable. Also, be sure to identify your constants—the conditions that will remain the same throughout your experiment.



Now it's time to predict the results you are expecting when you adjust your independent variable. Write your prediction in the form of a hypothesis. An acceptable format for your hypothesis is, "If the independent variable increases/decreases, then the dependent variable will increase/decrease."

### **Getting Involved:**

### **Designing the experiment**

Write a step-by-step procedure that articulates exactly what you will do to test your hypothesis. Be sure to include a list of materials and equipment that will be needed in the experiment, list safety precautions, and include diagrams of anything that you design or set-up for your experiment.

*Continued*

## Tips for Involved Parents and Students:

# Tips for a super Science Fair project *(continued)*

### **Moving Forward:**

#### **Conducting the experiment**

Once you have written your procedure, conduct your experiment by following the steps you outlined. Remember to conduct at least three trials under the same conditions to accumulate multiple samples of data. When making measurements, be sure to use the correct measurement system, units, and significant figures (if you are in high school). Organize your data on a Data Table that is neatly drawn (with a ruler or computer program) and includes a title and units. Consider displaying your data in the form of a graph. Think through your data and be sure that you choose the best type of graph for the data you collected.

### **Wrapping Up:**

#### **Writing your conclusion**

In your conclusion, state whether your experiment supported or rejected your hypothesis and explain in your own words what changes you would make in your experimental design, what your data reveals, and how you could further explore this topic.

### **Looking Good:**

#### **Preparing your backboard**

Your backboard is an important way to display your experiment and care should be taken when designing your layout. Be sure to use a ruler and center items nicely and cut neatly. The rules do not allow many items to be displayed along with your backboard, so check with your teacher for clarification.

### **Presenting:**

#### **Interviewing at the Science Fair**

Students who move on to the Regional, State, or International Science Fair will be asked by judges to talk about their research and conclusions. Some Local Science Fairs also have interviews with judges, so confirm that detail with your teacher. Prepare an introduction and be sure to include information about yourself, your topic, your variables, your hypothesis, your experiment, and your results. Be prepared to explain your graphs and your lab notebook and the items you include on your backboard. Judges might ask what you would do differently if you did the experiment again or how you would expand on this investigation in future research. Present yourself professionally by dressing neatly, looking the judges in the eye, and thanking them for their time and consideration.



**Most importantly...  
Have fun and good luck!**

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