

# **GENERAL GUIDELINES for EXPERIMENTS and INVENTIONS**

## **Inventions**

Students should answer the following questions on 2-4 pages and include at least 2 pictures.

1. What is the function of your invention?
2. How does your invention work?
3. How did you come up with the idea for your invention?
4. What were the sequential steps you took to build your invention?

## **DISPLAY BOARD EXAMPLE**

What is the function of your invention?	Project Title  Pictures and/or drawings	How did you come up with the idea for your invention?	What were the sequential steps you took to build your invention?
How does your invention work?			

*Materials can be placed in front of the display.*

## **Experiments**

Students should answer the following questions on 2-4 pages and include at least 2 pictures.

1. What did you learn or find out by doing this experiment?
2. What is your conclusion?
3. It should answer your initial question.
4. Analyze all of your data.

## **DISPLAY BOARD EXAMPLE**

PROCEDURES  (What you did.)  Include pictures and/or drawings.	PROJECT TITLE  QUESTION  (What you want to find out.)  HYPOTHESIS  (What you think will happen.)	DATA & RESULTS  (What did happen.)  Include charts and/or tables.  CONCLUSION  (What you learned.)
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*Materials can be placed in front of the display.*

## TIPS FOR STUDENTS

1. Research information about what you want to investigate. Learn as much about your subject as you can. This will help you set up your project.
2. Use a notebook to record everything you do. Use your notes to organize your project as you proceed.
3. Make a list and collect necessary materials to perform your experiment.
4. Take pictures of your experiment as you go. If not pictures, then add drawings.
5. Perform the experiment more than once, several times if possible, and record the data each time.
6. See if your original hypothesis was correct. Don't worry if your hypothesis is wrong! Your experiment is a success if you followed the scientific method.
7. Display anything you used during your experiment. Such as ingredients, objects or a finished product. All ingredients must be in sealed plastic containers.
8. Use your imagination in your display! Use color, designs, photos, drawings, humor. Be creative.
9. HAVE FUN!

## TIPS FOR PARENTS

1. **Selecting a project** – Help your child choose a project that will not be too difficult or time consuming to complete. Children often try to tackle projects that are too complicated for them to handle effectively. A simple project often makes the best project.
2. **Scheduling a time** – Help your child to set up and follow a time schedule.
3. **Determining the hypothesis** – help your child focus on creating a clear and concise hypothesis. The hypothesis will tell them what they think will happen when the experiment is completed.
4. **Doing the project** – While you must not do the project for the child, it is expected for parents to assist their children in selecting a topic and helping to identify relationships to science.
5. **Help for the project** – This is the area where parents often forget that the Science Fair project is to be done by the children. Advise your child, but don't do it for them. Help mostly by encouraging and overcoming stumbling blocks that your child may experience.
6. **Setting up the display** – Displays will look better if your child uses pictures and/or drawings and if they lay out the exhibit before attaching the materials.
7. Be inventive and HAVE FUN!

**MORE SCIENCE FAIR HELP** Visit the library to look at science project idea books on display.  
For on-line help try one of these sites:

<http://pbskids.org/dragonflytv/scifair/index.html>  
<http://sciencebuddies.org>  
<http://chemistry.about.com/od/sciencefairprojects/a/sciproelem.htm>  
<http://www.education.com/activity/science/>

## THE SCIENTIFIC METHOD:

1. Ask a question
2. Do background research
3. Construct a hypothesis
4. Test your hypothesis by doing an experiment
5. Analyze your data and draw a conclusion
6. Report your results (was your hypotheses correct?)