

**Summer Assignment**  
**7<sup>th</sup> Grade Science Fair**

Exploring and implementing the scientific method is a major portion of the 7<sup>th</sup> grade science curriculum. As a 7<sup>th</sup> grade student, you have already been introduced to the method in previous science classes. The basic steps of the scientific process are:

1. Make an observation about the world.
2. Ask a question.
3. Research the question.
4. Form a hypothesis or make an educated guess about the answer to the question.
5. Do an experiment to test your hypothesis and collect data.
6. Analyze your data looking for patterns
7. Draw a conclusion based on the data to determine if the hypothesis was correct.
8. Communicate your results to others.

During the first semester of 7<sup>th</sup> grade, you will learn how to research and write a paper on a science topic that you would like to explore and test for your science fair project. In order to begin that process upon your return in the fall, you are being asked to brainstorm appropriate science fair topics and questions.

**ASSIGNMENT:** Purchase a composition notebook (i.e. black/white marble) that will be used to keep accurate and detailed record of your work on the project.  
**EVERYTHING IS TO BE RECORDED IN THE JOURNAL.** It is evaluated at the end of the process by the judges and your teacher for completeness. The reader should be able to trace your experimental progress, which begins this summer, just by reading your log.

1. Determine **three** topics that interest you. List them in your journal.  
For example: Model cars, Plants, Weather  
(The topics do not have to be “science” topics – i.e. music, sports, dollhouses.)
2. Develop several relationships that are found within each topic.  
Model cars: speed and design, color and temperature  
Plants: plants and fertilizers, plants and pollutants  
Weather: temperature and damage, wind speed and damage  
(The more relationships you can develop, the easier it is to generate two questions?)
3. Generate **two** questions for each topic, not each relationship!  
Model cars: Does the length of the hood affect the speed of a car?  
Does the axle length affect the speed of a car?  
Plants: Will fertilizer “x” or “y” cause geraniums to grow taller?  
What % solution of fertilizer “x” will cause greatest growth in ivy plants?  
Weather: Which popsicle melts fastest in sunlight: red, orange, or purple?  
At what wind speed do shingles fly off the roof of a house?  
(Notice both questions do not have to come from the same relationship.)

Use the Internet, library, friends, family, T.V., XBOX, just about any resource to help you generate ideas. Using Google “science fair” will certainly produce a variety of hits. Other possible websites are: [www.sciencebuddies.com](http://www.sciencebuddies.com)., [www.education.com](http://www.education.com)., [www.exploratorium.com](http://www.exploratorium.com), [dsc.discovery.com](http://dsc.discovery.com), [science.howstuffworks.com](http://science.howstuffworks.com), [www.nasa.gov](http://www.nasa.gov), [kids.yahoo.com/science](http://kids.yahoo.com/science), [www.factmonster.com](http://www.factmonster.com). That is how brainstorming is to be done. I do NOT want copies of fairs that have already been presented. If necessary, try to put a unique “twist” on a previous idea to make it your own. Creativity is a big part of the process. Think outside the box! When coming up with the questions, keep in mind the following:

Does my question have a specific answer or solution? Is there a reasonable way to find that answer or solution? Has a solution already been found? Do I have enough time? Can I finish the work before science fair day? Can I get or make the materials I need? Can I afford them? Is my project safe? Do I really understand the topic? Can I find resources that aren’t too advanced? Is my topic interesting or original in some way?

Ideas that are **NOT** valid are: Do Jupiter’s moons ever collide? Do bats carry rabies?

**When you are finished brainstorming and all the information has been recorded in your journal, type each topic and its two questions on a piece of paper. Please type your name in the top left corner of the paper and submit it to your homeroom teacher on your first day of school.**

Please show this to your parents TODAY and come see me TOMORROW in Room 8-2 if you have any questions about the assignment. I will be happy to give you more ideas to help you get started. Any activity this summer can be the start of your science fair, if you are observant!

Peace and have a safe summer,

Mrs. Wilson