

THE SCIENTIFIC METHOD

The Scientific Method* is an organized way of figuring something out. There are usually six parts to it.

1. **Purpose**- What do you want to learn? An example would be, "Do plants grow better under different colored lights?" or "Do girls have faster reflexes than boys?"
2. **Research**- Find out as much as you can. Look for information in books, on the internet, and by talking with teachers to get the most information you can before you start experimenting.
3. **Hypothesis**- After doing your research, try to predict the answer to the problem. Another term for hypothesis is 'educated guess'. This is usually stated like " If I...(do something) then...(this will occur)"

An example would be, "If I grow plants under green light bulbs, then they will grow better than plants growing under red light bulbs"

4. **Experiment**- The fun part! Design a test or procedure to confirm or disprove your hypothesis. In our example, you would set up a plant under a green light bulb and a plant under a red light and observe them for a couple of weeks. Also set up a plant under regular white light to compare the others to. If you are doing this for a science fair, you will probably have to write down exactly what you did for your experiment step by step.
5. **Analysis**- Record what happened during the experiment. Also known as 'data'.
6. **Conclusion**- Review the data and check to see if your hypothesis was correct. If the plant under the green light bulb grew better, you proved your hypothesis, if not, your hypothesis was wrong. It is not "bad" if your hypothesis was wrong, because you still learned something!

The Floating Ms

Purpose: What happens when you put an M & M candy in water?

Research: Talk with your parent about what you think will happen.

Hypothesis: Make a prediction about what will happen to the M & M.

Experiment: Gather an M & M, a cup, and warm water. Place the M & M in the water and observe what happens.

Analysis: Record what happened during the experiment.

Conclusion: Review your data and see if your hypothesis was correct. Try the experiment with other variables like cold water or hot water.

Possible ideas to test the Scientific Method*

Which style of paper airplane can fly the furthest?

Which brand of popcorn leaves the most unpopped kernels?

* Information and ideas courtesy of <http://www.sciencebob.com>

Is there water in the air?

Can water change into a gas?

Which kind of food do dogs (or any animal) prefer best?

Which paper towel brand is the strongest?

What is the best way to keep an ice cube from melting?

Does the color of light used on plants affect how well they grow?

What brand of battery lasts the longest?

What type of food molds the fastest?

What type of grass seed grows the fastest?

What items will sink or float?

What makes items sink or float?