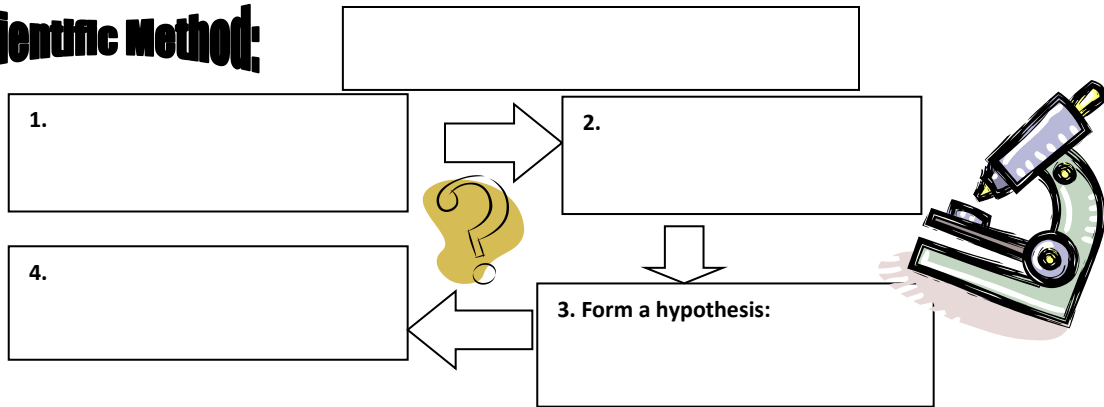


Scientific Method:



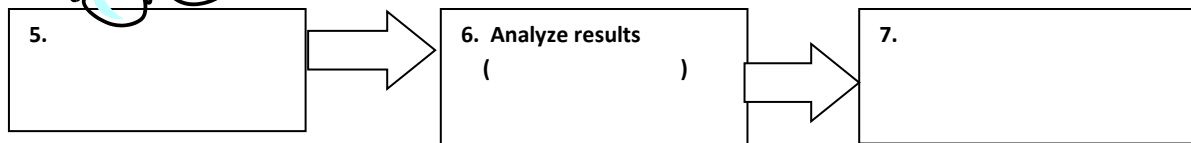
A Controlled Experiment

- Contains a _____ group and an _____ group
 - Control group - _____
 - Experimental group - _____
- The experimenter changes only _____ between the control and experimental groups
 - Variable - _____ (also called experimental variables)
 - Control - _____ (also called control variables)
- There are two kinds of experimental variables in an experiment
 - Independent Variable - _____
 - Dependent Variable - _____
 _____ (it depends on the independent variable)

Example: You've decided to experiment with tomato plants. You are trying to figure out which color of light they grow best in. You grow 5 plants under normal light bulbs, 5 plants under green lights, and 5 plants under blue lights. All of the plants receive the same amount of water and nutrients, are kept in the same size pots, have the same amount of soil, and are the same variety of tomatoes.

1. Which group is the control group? _____
2. What is the independent variable? _____
3. What is the dependent variable? _____
4. What are the controls/control variables? _____

It is not always possible to control every variable. Scientists do the best they can to control variables.



Then What?

- If your conclusion _____ your hypothesis:
 - o _____ - Getting the same results _____ gives your data _____. So, even if your conclusion is supported, you retest to make sure that your results were not just a fluke.
- If your conclusion _____ your hypothesis:
 - o Think again about _____ for your _____ or observation and redo the _____.
 - o _____ - Again, you want to make sure that your results were not just a fluke.