

## The Methods of Science

### Identify the Parts of an Experiment & Types of Variables

Match the term with it's definition

Name \_\_\_\_\_

Date \_\_\_\_\_ per. \_\_\_\_\_

- \_\_\_\_\_ 1. Controlled Group
- \_\_\_\_\_ 2. Independent/ Manipulated Variable
- \_\_\_\_\_ 3. Experimental Group
- \_\_\_\_\_ 4. Controlled Variables
- \_\_\_\_\_ 5. Dependent/ Responding Variable

- A. The Factor that the scientist is measuring to get the results of the experiment.
- B. Factors that MUST remain constant for all parts of the experiment.
- C. The group in the experiment that serves as a standard of comparison with another group to serve as a real world example.
- D. The ONE factor that the scientist is changing, or working with in an experiment.
- E. The group in the experiment that receives the treatment the scientist is administering.

**Example #1:** Music may help people relax. John got two groups of people together. He took everybody's pulse and blood pressure. Then he allowed one group to listen to soothing music while the other group sat in silence. After the song was over, he measured everyone's pulse and blood pressure again.

What is the control group?

What is the experimental group?

What is the independent/manipulated variable?

What is the dependent/responding variable?

**Example #2:** Preservatives, like salt, help keep food fresh. Katie made 12 loaves of bread using the same recipe and baking method. In 6 of them she used salt, in 6 of them she used no salt. After the loaves were baked, she placed each of the loaves in a plastic bag and left them close together on the counter in the kitchen. Each day she looked at them to see if any mold had started to grow.

What is the control group?

What is the experimental group?

What is the independent/manipulated variable?

What is the dependent/responding variable?

**Example #3:** Rocco made an air-pressure device that could launch potatoes. He added air to the device using his bicycle tire pump. For 10 launches, he used 10 pumps of air. For another 10 launches, he used 20 pumps of air. After launching each potato, he carefully measured how far it travelled.

What is the control group?

What is the experimental group?

What is the independent/manipulated variable?

What is the dependent/responding variable?