Practice in Identifying Variables

 Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. A psychology teacher allowed his third period class to eat snacks while taking an exam. His fourth period class was not allowed to eat snacks while taking the same exam. He compared the test averages from both classes. Prior to this, both classes averaged comparable exam scores.

* 1. What is the hypothesis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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* 1. What is the control group? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  2. What is the experimental group? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  3. What is the independent variable? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  4. What is the dependent variable? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Four groups of rats were being conditioned to elicit an escape-avoidance response. Groups 1, 2, and 3 were given 10, 15, and 20 volts of shock respectively. Group 4 was given no shock. All other conditions were the same for each group. The time is took for each rat to elicit an escape-avoidance response was recorded.

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1. The leading producer of paper products wants to increase their sales of paper cups. They set up a test program in local supermarkets. Identical 8 ounce paper cups were packaged in two ways—half of the stock was packaged in the present plain boxes, while the other half of the stock was packaged in bright, cheery, pastel-colored boxes. Sales volumes for each type of package were recorded over a period of six months.

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  4. What is the dependent variable? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. A group of scientists are testing the hypothesis that people learn more when they study in a quiet versus a noisy place.

* 1. What is the independent variable? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  2. What is the dependent variable? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  3. Propose an operational definition for the dependent variable. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Imagine you are testing the hypothesis that watching professional wrestling diminishes interpersonal skills.

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Confounding Variables: Identify the one serious confounding factor that threatens the following experiment’s validity. Then suggest how the confounded factor could be controlled.

A drug company developed a new medication to control the manic phase of manic-depression. The firm hired a hospital psychiatrist to test the effectiveness of the drug. He identified a group of manic-phase patients and randomly assigned them to a drug or placebo group. Nurse Ratchet was told to administer the drug, while Nurse Johnson was told to administer the placebo. Each made daily observations of their patients during treatment. A month later, the observations were compared. In general, patients in the drug group had behaved more “normally” than patients in the placebo group. The drug company publicized the effectiveness of the product and received a million orders for the new drug in the next few weeks.

Name a confounding variable:

What is one method to “unconfound” the experiment?

Fred Rogers wanted to test a new sing-along method to teach math to fourth graders (e.g. “I Love to Multiply” to the tune of God Bless America). He used the sing-along method in his first period class. His sixth period students continued solving math problems with the old method. At the end of the term, Mr. Rogers found that the first period class scored significantly lower than the sixth period class on a mathematics achievement test. He concluded that his sing-along method was a total failure.

Name a confounding variable:

What is one method to unconfound the experiment?