

More Practice with Variables and Groups

When providing the best possible answer to the following questions please apply all learned scientific techniques and procedures, do not use abbreviations, use proper scientific terminology, show work for all mathematical calculations, use all significant figure and scientific notation rules, apply S.E.E.C. writing strategies, and note that at all times spelling counts. Your ability to meet these and all established classroom expectations, including labeling of BINs, providing heading information, and your ability to follow directions may be included in computation of grade.

1. The time it takes to run a kilometer depends on the amount of daily exercise a person gets.

a. Independent variable: _____

b. Dependent variable: _____

c. Experimental Group: _____

d. Control Group: _____

2. Plants that get regular watering grow taller.

a. Independent variable: _____

b. Dependent variable: _____

c. Experimental Group: _____

d. Control Group: _____

3. At-risk children who attend Head Start get better grades in reading in second grade.

a. Independent variable: _____

b. Dependent variable: _____

c. Experimental Group: _____

d. Control Group: _____

4. People who smoke cigarettes have a higher incident of lung cancer.

a. Independent variable: _____

b. Dependent variable: _____

c. Experimental Group: _____

d. Control Group: _____

5. Dr. Imanut wants to examine whether a new drug increases the maze running performance of older rats. Just like aging humans, older rats show signs of poorer memory for new things. Dr. Imanut teaches two groups of older rats to find a piece of tasty rat chow in the maze. One group of rats is given the new drug while they are learning the maze. The second group is not given the drug. One week after having learned the maze he retests the rats and records how long it takes them to find the rat chow.

- a. Independent variable: _____
- b. Dependent variable: _____
- c. Experimental Group: _____
- d. Control Group: _____

6. A study was conducted to determine the effect that the amount of exercise has on heart rate. High school students rode bikes for different numbers of kilometers and then their heart rate was measured. One group rode 10 km, a second group rode 20 km, a third group rode 36 km, and a fourth group rode 40 km. Following the exercise the heart rate was immediately measured by counting the pulse for 30 seconds at the wrist.

- a. Independent variable: _____
- b. Dependent variable: _____
- c. Experimental Group: _____
- d. Control Group: _____

7. A researcher was interested in the effects of reward on intrinsic motivation. Some children were told that they would be given a special award for drawing with magic markers (an activity they already enjoyed). Other children were simply asked to draw with the magic markers. One week later, the children were unobtrusively observed for how much time they spent drawing with the markers. The children who expected and received a reward for drawing with the markers were less likely to draw with them later.

- a. Independent variable: _____
- b. Dependent variable: _____
- c. Experimental Group: _____
- d. Control Group: _____