

1. In a controlled experiment, the variable that is changed to test the hypothesis is called the –

- A. Controlled variable
- B. Responding variable
- C. Dependent variable
- D. Independent variable

2. A student has a wagon of a certain mass. He plans to investigate how the acceleration of the wagon changes as the force he exerts on it increases. In his investigation, the independent variable is—

- A. The acceleration of the wagon
- B. The force acting on the wagon
- C. The mass of the wagon
- D. The mass of the student.

3. What happens to the dependent variable in a controlled experiment?

A. It changes as the independent variable changes.

B. It changes as the responding variable changes.

C. It does not change

D. It is supported or disproved.

4. A student wants to conduct an experiment to find out how pulse rates changes as the length of time spent exercising increases. The dependent variable will be _____.

- A. breathing rate
- B. pulse rate
- C. time spent exercising
- D. the kind of exercise

5. A student hypothesized that the amount of sunlight a sunflower plant receives determines the number of sunflower seeds the plant produces. In her experiment, the number of seeds produces is the _____.

- A. dependent variable
- B. independent variable
- C. controlled variable
- D. manipulated variable

6. A student is planning an experiment to find out how the height from which he drops a ball affects how high the ball bounces. The dependent variable is the _____.

- A. diameter of the ball
- B. force acting on the ball
- C. height that the ball bounces
- D. height from which the ball is dropped

7. In an experiment studying how increasing amounts of acid rain affect pond water, which of the following would be the dependent variable?

- A. organisms in rainwater
- B. acid rain and non-acid rain
- C. a mixture of pond water and acid
- D. number of organisms in pond water

8. In a scientific investigation, conclusions are drawn directly after _____.

A. the hypothesis is revised

B. results have been communicated to other scientists

C. data have been interpreted

D. the hypothesis has been stated

9. In a controlled experiment, the independent variable is ____.

- A. the results of the experiment
- B. the variable that stays the same
- C. changed to test the hypothesis
- D. always time