

RQ on Scientific Method

Name: _____

Date: _____

1. Information collected during an experiment is/are called
 - A. variables
 - B. data
 - C. controls
 - D. facts
2. An experimental group in which all the variables are kept constant so that its results can be used for comparison is called the
 - A. independent variable
 - B. dependent variable
 - C. constant
 - D. control
3. The variable that is measured during an experiment is called the
 - A. independent variable
 - B. dependent variable
 - C. control
 - D. constant
4. During a controlled experiment, all the variables except the one being tested are kept constant. The one variable that is being tested is called the
 - A. independent variable
 - B. dependent variable
 - C. control
 - D. constant
5. Which statement describes a *positive* effect of a scientific discovery?
 - A. It makes some people upset.
 - B. It takes a long time to be useful.
 - C. It helps explain how things work.
 - D. It causes work to be more difficult.
6. A professor of molecular biology has completed an experiment on mutations. The results indicate that the current understanding of how mutations occur is incomplete. Which is the most appropriate way to share the results of this experiment?
 - A. hold a press conference
 - B. publish the results in a scientific journal
 - C. send the results to newspapers and magazines
 - D. share the results with classes of university students
7. Which of the following statements about scientific theories is *not* correct?
 - A. Theories have been tested many times.
 - B. Theories are incomplete, temporary ideas.
 - C. Theories are inferred explanations, strongly supported by evidence.
 - D. Theories explain a range of observations and are used to make predictions.
8. Which of the following questions is testable in a scientific investigation?
 - A. Are dogs better pets than cats?
 - B. Are dogs happy when they are walked?
 - C. Are cats more active at night than during the day?
 - D. Are cats easier to take care of than dogs?

9. A prediction was made that the best conditions for earthworm growth occur when there are fewer than five earthworms per cubic meter of soil. This prediction is called a

- A. law.
- B. theory.
- C. hypothesis.
- D. conclusion.

10. In order to advance to the level of a theory, a hypothesis should be

- A. obviously accepted by most people.
- B. a fully functional experiment.
- C. in alignment with past theories.
- D. repeatedly confirmed by experimentation.