Understanding Variables in Science

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Review Your Knowledge of Scientific Investigation Skills

Name: _____ Date: _____

Answer the following questions based on what you've learned about variables in scientific experiments.

1. What are the three types of variables in an experiment?

2. What is the independent variable in an experiment?

- **A.** The part you measure
- **B.** The part you change on purpose
- **C.** Everything that stays the same

3. Controlled variables are the parts of an experiment that can change.

◯ True ◯ False

4. The dependent variable is the part you ___ in an experiment.

5. Why is it important for scientists to keep most things the same during an experiment?

6. Which of the following is an example of a controlled variable in a seed growth experiment?

- **A.** Type of seed used
- **B.** Amount of fertilizer applied
- **C.** Light conditions

7. Fair testing is essential in scientific investigations.

◯ True ◯ False

8. In a seed growth experiment, if you change the amount of water, that is the ___ variable.

9. Can you think of an experiment where you might change something? Describe briefly.

10. What is the purpose of a scientific investigation?

- **A.** To prove something wrong
- **B.** To gather knowledge and understanding
- **C.** To make things complicated

Answer Key

1. The three types of variables are independent variables, dependent variables, and controlled variables. 2. The part you change on purpose 3. False 4. measure 5. Keeping things the same allows scientists to know that any changes are due to the independent variable and not other factors. 6. Type of seed used 7. True 8. independent 9. One example is testing how different amounts of sunlight affect plant growth. I would change the sunlight exposure while keeping the type of plant the same. 10. To gather knowledge and understanding