

Quiz: The Nature of Science - Independent & Dependent Variables

Part A: Multiple Choice: Choose the best answer for each question.

1. What is an independent variable?
 - a. The factor that is measured
 - b. The factor that is changed or manipulated
 - c. The result of an experiment
 - d. The conclusion of an experiment
 2. What is a dependent variable?
 - a. The factor that is changed on purpose
 - b. The factor that remains the same
 - c. The factor that is measured or observed
 - d. The hypothesis
 3. A scientist changes the amount of water given to plants and measures their height. What is the independent variable?
 - a. Plant height
 - b. Type of plant
 - c. Amount of water
 - d. Soil type
 4. In an experiment testing how sunlight affects plant growth, what is the dependent variable?
 - a. Amount of sunlight
 - b. Plant growth
 - c. Type of plant
 - d. Pot size
 5. Which statement best describes the relationship between independent and dependent variables?
 - a. The dependent variable is changed to affect the independent variable.
 - b. The independent variable is measured.
 - c. The independent variable affects the dependent variable.
 - d. They are always the same.
 6. A student changes the temperature of water and records how much sugar dissolves. What is the dependent variable?
 - a. Water temperature
 - b. Amount of sugar dissolved
 - c. Type of sugar
 - d. Container size
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Part B: True or False: Write T or F

7. ____ The independent variable is the factor that a scientist changes.
 8. ____ The dependent variable is what is measured during an experiment.
 9. ____ A good experiment can have no variables.
 10. ____ The dependent variable depends on changes made to the independent variable.
 11. ____ In an experiment, the independent variable is usually graphed on the x-axis.
 12. ____ The dependent variable is usually graphed on the y-axis.
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Part C: Fill in the Blank

Word Bank

independent dependent measured changed experiment variable

13. A factor that can change in an _____ is called a variable.
 14. The independent variable is the factor that is _____ by the scientist.
 15. The dependent variable is the factor that is _____ or observed.
 16. The results of an experiment are shown by the _____ variable.
 17. The _____ variable affects the dependent variable.
 18. Both independent and dependent variables are types of _____.
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