Introduction to Physical Science • *Guided Reading and Study*

Scientific Inquiry *(continued)*

scientific law

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scientific theory

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Introduction (p. 10)

1. What does scientific inquiry refer to?

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The Process of Inquiry (pp. 10–14)

2. Is the following sentence true or false? Scientific inquiry often begins with posing questions. _____

3. Circle the letter of each sentence that is a scientific question.
   a. At what temperature does water boil?
   b. When does the sun rise on April 3?
   c. How can my team work better together?
   d. Why does she like science more than he does?

4. A(n) _____ is a possible explanation for a set of observations or answer to a scientific question.

5. Is the following sentence true or false? Scientists consider a hypothesis to be a fact. _____

6. What is a testable hypothesis?

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7. To test a hypothesis, a scientist designs a(n) _____.

Match the term with its definition.

___ 8. responding variable   **a.** the one variable that is purposely changed to test a hypothesis

___ 9. manipulated variable   **b.** a factor that can change in an experiment

___ 10. controlled experiment   **c.** the factor that may change in response to the manipulated variable

___ 11. variable   **d.** an experiment in which only one variable is manipulated at a time

12. Is the following sentence true or false? If you do not control variables in an experiment, there will be no way to know which variable explains your results. _____

13. The facts, figures, and other evidence gathered through observations are called _____.

14. In carrying out a controlled experiment, what does a data table help you do?

_____

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15. Scientists generally use a system of measument called _____ to share quantitative data.

16. Circle the letter of each sentence that is true about graphs.
    a. A graph can reveal a trend in data.
    b. Graphs help scientists interpret data.
    c. Graphs are the only way to organize data.
    d. A graph can reveal a pattern in data.

17. A(n) _____ is a summary of what you have learned from an experiment.

18. What should you ask yourself in drawing a conclusion about an experiment?

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