

**What Is Science?** • *Guided Reading and Study*

**Thinking Like a Scientist** *(continued)*

**Introduction** (p. 6)

1. What are five skills scientists use to learn more about the world?

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\_\_\_\_\_

**Observing** (p. 7)

2. What is observing?

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\_\_\_\_\_

\_\_\_\_\_

3. The senses a scientist uses in observing include sight, hearing, touch, taste, and \_\_\_\_\_.

4. In the spaces below, explain the differences between quantitative and qualitative observations.

Observations	
Quantitative Observations	Qualitative Observations

**Inferring** (p. 8)

5. What is inferring?

\_\_\_\_\_

\_\_\_\_\_

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- 6. Circle the letter of each item that is true about inferences.
  - a. Inferences are based on reasoning from what you already know.
  - b. Making an inference involves wild guessing.
  - c. An inference is an interpretation of observations.
  - d. People make inferences all the time.

**Predicting (p. 9)**

- 7. Making a forecast of what will happen in the future based on past experience or evidence is called \_\_\_\_\_.
- 8. How are inferring and predicting related?

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**Classifying (p. 10)**

- 9. What is classifying?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 10. Is the following sentence true or false? A drawback of classifying things is that objects and information stay disorganized. \_\_\_\_\_

**Making Models (p. 11)**

- 11. What does making models involve?

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- 12. Circle the letter of each item that could be a model.
  - a. map
  - b. movie set
  - c. computer-generated illustration
  - d. notebook notes

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13. Is the following sentence true or false? Models help people study things that be observed directly. \_\_\_\_\_
14. Is the following sentence true or false? Some information about an object or may be missing from a model. \_\_\_\_\_

**Scientific Attitudes** (p. 12)

15. What is science?

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\_\_\_\_\_

16. What are five important attitudes that successful scientists possess?

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\_\_\_\_\_

17. Circle the letter of the definition of skepticism.

- a. having an attitude of doubt
- b. being open-minded
- c. coming up with inventive ways to solve problems
- d. an eagerness to learn more about a topic

18. Is the following sentence true or false? Honesty is important when a scientist's results go against previous ideas. \_\_\_\_\_