Reviewing Key Terms

Choose the letter of the best answer.

1. When you note that a rabbit has white fur, you are making a
   a. quantitative observation.
   b. qualitative observation.
   c. prediction.
   d. model.

2. Music stores arrange CDs according to the type of music—rock, country, folk, and so on. This is an example of
   a. observation.
   b. inferencing.
   c. posing questions.
   d. classifying.

3. A statement that describes how to measure a variable or define a term is a(n)
   a. controlled variable.
   b. manipulated variable.
   c. hypothesis.
   d. operational definition.

4. Which of the following is NOT an example of technology?
   a. a teaspoon
   b. a computer
   c. a leaf
   d. a microscope

5. In labs in this book, which of the following indicates the danger of breakage?
   a. 
   b. 
   c. 
   d. 

If the statement is true, write *true*. If it is false, change the underlined word or words to make the statement true.

6. When you interpret what you have observed, you are inferring.
7. When you pose questions, you create representations of complex objects or processes.
8. The responding variable is changed to test a hypothesis.
9. Technology changes the natural world to meet human needs.
10. You should begin preparing for a lab 15 minutes before you perform the lab.

Writing in Science

Description Think about the ways in which the police who investigate crimes act like scientists. In a paragraph, describe the scientific skills that police use in their work.

Checking Concepts

11. When you observe something, what are you doing?
12. What is life science?
13. What is a hypothesis? Why is it important to develop a scientific hypothesis that is testable?
14. In an experiment, why is it important to control all variables except one?
15. What does *data* mean?
16. What does an engineer do?
17. Identify three things that you should do to prepare for a lab.

Thinking Critically

18. **Inferring** Suppose you come home to the scene below. What can you infer happened while you were gone?

19. **Problem Solving** Suppose you would like to find out which dog food your dog likes best. What variables would you need to control in your experiment?

Applying Skills

Use the data table below to answer Questions 22–26.

Three students conducted a controlled experiment to find out how walking and running affected their heart rates.

Effect of Activity on Heart Rate (in beats per minute)

Student	Heart Rate (at rest)	Heart Rate (walking)	Heart Rate (running)
1	70	90	115
2	72	80	100
3	80	100	120

22. **Controlling Variables** What is the manipulated variable in this experiment? What is the responding variable?
23. **Developing Hypotheses** What hypothesis might this experiment be testing?
24. **Predicting** Based on this experiment and what you know about exercising, predict how the students' heart rates would change while they are resting after a long run.
25. **Designing Experiments** Design a controlled experiment to determine which activity has more of an effect on a person's heart rate—jumping rope or doing push-ups.
26. **Drawing Conclusions** What do the data indicate about the increased physical activity and heart rate?