

Chapter 1

Use with Text Pages 6-9

REINFORCEMENT

● Science Is Everywhere

Use the definitions of pure science and technology listed below to decide whether the discovery described in each statement is an example of pure science or technology. Write a P for pure science or a T for technology in the space provided.

pure science: the study of a subject for the advancement of knowledge

technology: the application of scientific knowledge to improve the quality of life

- _____ 1. Sarah observed that the shape of the moon seems to change slightly each night.
- _____ 2. A scientist observed that coating glass with certain materials helped to prevent the glass from shattering.
- _____ 3. A meteorologist discovered that a radar system developed to track the paths of airplanes could also be used to track the paths of storms.
- _____ 4. While on a field trip, a geology student discovers a new kind of mineral.
- _____ 5. A biologist discovered that bacteria could not grow in an environment where a certain kind of mold was present. The mold was later used to make the drug penicillin.

Place a check mark beside each item that is likely to be studied by a physical scientist.

- _____ 6. the energy given off by the sun
- _____ 7. which bones make up the human body
- _____ 8. the composition of the bones in the human body
- _____ 9. the temperature at which ice melts
- _____ 10. the substances that make up a drug
- _____ 11. the distance from the sun to Earth
- _____ 12. the fish population in a pond
- _____ 13. the speed at which electricity travels through a certain kind of wire
- _____ 14. how heat from the sun can be used to heat a home on Earth
- _____ 15. when the next bird migration occurs
- _____ 16. the amount of precipitation that falls in a desert
- _____ 17. the chemical makeup of a newly discovered mineral

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● Finding Out

Complete the following.

1. How does a problem differ from an exercise? _____

Identify the sense you would use to make each of the following observations.

- _____ 2. the distance between two points
- _____ 3. the loudness of a stereo system
- _____ 4. the saltiness of a stew
- _____ 5. the number of students in a classroom
- _____ 6. determining whether bathwater was too hot or too cold
- _____ 7. determining whether milk in a container has soured
- _____ 8. the spiciness of a dinner

Identify the sense that each object listed is designed to help.

- _____ 9. hearing aid
- _____ 10. microscope
- _____ 11. thermometer
- _____ 12. ruler
- _____ 13. stereo headphones
- _____ 14. telescope
- _____ 15. stethoscope

Place the following terms in logical order by writing the numbers 1 through 4 in the spaces provided.

- _____ 16. theory
- _____ 17. scientific law
- _____ 18. hypothesis
- _____ 19. problem

20. What is an experiment? _____

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Use with Text Pages 18–19

**● Getting Real
with Special Effects**

Write your answers to the following questions and activities in the spaces provided.

1. Why are special effects used in movies? _____

2. Compare the composition of special-effects rocks and boulders used in old movies with the composition of those used in modern movies. How have new materials improved special-effects rocks? _____

3. Compare the composition of special-effects glass used in old movies with the composition of glass used in modern movies. _____

4. How have new materials improved special-effects glass? _____

5. Describe the processes of claymation and go-motion. _____

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● Exploring Science

Complete the following.

1. Place the following in logical order by writing the numbers 1 through 5 in the spaces provided.

_____ a. analysis and conclusion

_____ d. observations and data

_____ b. hypothesis

_____ e. problem

_____ c. procedure

2. Is an experiment an example of an exercise or a problem? Why? _____

3. Why is a control important in an experiment? _____

4. Why is it important to follow all directions in an experiment carefully? _____

5. What two articles of clothing should always be worn when working in a science laboratory?

Match each safety symbol in Column II with its description in Column I. Write the letter of the correct symbol in the blank on the left.

Column I

_____ 6. fire safety

_____ 7. electrical safety

_____ 8. sharp objects

_____ 9. eye safety

_____ 10. clothing protection

Column II

a.



b.



c.



d.



e.

