

CHAPTER

1

DIRECTED READING WORKSHEET

The World of Physical Science

As you read Chapter 1, which begins on page 4 of your textbook, answer the following questions.

Would You Believe . . . ? (p. 4)

1. What did Leonardo da Vinci learn from studying sea gulls?

2. How did James Czarnowski get his idea for the penguin boat, *Proteus*? Explain.

What Do You Think? (p. 5)

Answer these questions in your ScienceLog now. Then later, you'll have a chance to revise your answers based on what you've learned.

Investigate! (p. 5)

3. What is the seemingly impossible problem in this activity?

Section 1: Exploring Physical Science (p. 6)

4. Your reflection on the inside of a spoon is different from your reflection on the outside of a spoon. True or False? (Circle one.)

Chapter 1, continued

That's Science! (p. 6)

5. Which of the following activities are part of "doing science"? (Circle all that apply.)
- a. asking questions
 - b. being curious
 - c. making observations
 - d. taking an opinion poll
6. Only scientists can do science. True or False? (Circle one.)

Matter + Energy → Physical Science (p. 7)

7. Physical science is the study of energy and the stuff that every thing is made of. True or False? (Circle one.)
8. What do air, a ball, and a cheetah have in common?

9. All matter has energy, even if it isn't moving. True or False? (Circle one.)

10. What is one question you will answer as you explore physical science?

11. _____ is often divided into the categories of chemistry and physics. Chemistry is the study of different forms of _____ and how they _____. Physics is the study of _____ and how it _____ matter.

Looking at the chart on page 8, identify each of the following descriptions as belonging to chemistry or physics by writing *physics* or *chemistry* in the space provided.

12. _____ how a compass works
13. _____ why water boils at 100°C
14. _____ how chlorine and sodium combine to form table salt
15. _____ how gravity causes the motion that makes a roller-coaster ride so exciting
16. _____ why you see a rainbow after a rainstorm

Chapter 1, continued

Physical Science Is All Around You (p. 9)

Choose the term in Column B that best matches the topic of physical science in Column A, and write the corresponding letter in the space provided.

Column A	Column B
___ 17. waves, currents, and ocean water chemistry	a. ecology
___ 18. the transfer of energy in a food chain	b. botany
___ 19. weather patterns	c. oceanography
___ 20. how plants use carbon dioxide and water to make food	d. biology
___ 21. earthquake waves	e. astronomy
___ 22. the motion of galaxies in the universe	f. geology
___ 23. how the brain sends electrical impulses throughout the body	g. meteorology

Physical Science in Action (p. 10)

24. Which of the careers on page 10 sounds most interesting to you, and why?

Review (p. 10)

Now that you've finished Section 1, review what you learned by answering the Review questions in your ScienceLog.

Section 2: Using the Scientific Method (p. 11)

1. Advancements in science are mostly due to luck.

True or False? (Circle one.)

What Is the Scientific Method? (p. 11)

2. A series of _____ that scientists use to _____ questions and _____ problems is called the scientific method.