

CHAPTER

2

DIRECTED READING WORKSHEET

It's Alive!! Or, Is It?

As you read Chapter 2, which begins on page 34 of your textbook, answer the following questions.

Imagine . . . (p. 34)

1. The creatures in the Movile Cave are different from most other life-forms on Earth because
 - a. their energy supply comes from hydrogen sulfide.
 - b. their energy supply comes from sunlight.
 - c. they use energy to fuel their life processes.
 - d. some of them eat their own young for energy.

2. According to the text, what will you study in this chapter?

What Do You Think? (p. 35)

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. 35)

3. What is going to be observed in this activity?

Section 1: Characteristics of Living Things (p. 36)

4. What might you have in common with a slime mold?

5. All organisms, including fish, trees, and mushrooms, share _____ characteristics.



Chapter 2, continued

1 All Living Things Have Cells (p. 36)

In the space provided, write *AT* if the statement is always true, *ST* if the statement is sometimes true, and *NT* if the statement is never true.

- 6. _____ A cell has a membrane that acts as a barrier between its contents and its environment.
- 7. _____ Complex organisms such as monkeys and humans are made up of a few hundred cells.
- 8. _____ Living things have more than one cell.
- 9. _____ A cell is too small to be seen without a microscope.
- 10. _____ A cell performs all the basic functions of life.
- 11. _____ Cells perform specialized functions, such as transporting signals and movement.

2 All Living Things Sense and Respond to Change (p. 37)

12. Organisms respond to changes in their environments called stimuli. What are three examples of stimuli given in the text?

- 13. The chemical reactions that happen inside your body can also take place in any other type of environment. True or False? (Circle one.)
- 14. When it is hot, your body sweats to maintain a temperature of about 37°C. True or False? (Circle one.)

3 All Living Things Reproduce (p. 38)

15. Suppose the abalone reproduces by "broadcast spawning." The female shoots eggs into the water, and the male shoots sperm into the water. Is this sexual or asexual reproduction? Explain.

Chapter 2, continued

4 All Living Things Have DNA (p. 38)

16. Deoxyribonucleic acid provides instructions for making molecules called _____.
17. When they reproduce, organisms pass on copies of their _____ to their offspring.
18. Offspring resemble their parents because of heredity.
True or False? (Circle one.)

5 All Living Things Use Energy (p. 38)

19. Which of the following statements are true about metabolism? (Circle all that apply.)
- a. It requires energy.
 - b. It is the sum of an organism's chemical activities.
 - c. It is directly involved in heredity.
 - d. It occurs only in multicellular organisms.
 - e. It involves the breakdown of food.

6 All Living Things Grow and Develop (p. 39)

20. Growth in humans takes place as their cells divide and produce more cells. How do single-celled organisms grow?

21. Living things, such as the oak tree in Figure 7, may _____ and _____ as they grow.

Review (p. 39)

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

Section 2: The Simple Bare Necessities of Life (p. 40)

1. You have the same basic needs as a tree. True or False? (Circle one.)
2. What are the basic needs of a frog?



Chapter 2, continued

Food (p. 40)

Choose the term in Column B that best matches the phrase in Column A, and write the corresponding letter in the space provided. Terms can be used more than once.

Column A	Column B
___ 3. eats other living organisms	a. producer
___ 4. grass	b. consumer
___ 5. breaks down nutrients in dead organisms	c. decomposer
___ 6. uses energy from the sun or the chemicals in the environment to make food	
___ 7. a salamander	
___ 8. the microorganisms in Movile Cave	

Water (p. 40)

9. The cells of cactuses, camels, and dragonflies are approximately _____ percent water.
10. You get water from the foods you eat and the fluids you drink. How many days could you survive without water?

Air (p. 41)

11. Respiration, which releases energy from food, requires _____ . (carbon dioxide or oxygen)
12. Plants do not need oxygen to stay alive. True or False? (Circle one.)
13. To make food during photosynthesis, green plants need all of the following EXCEPT
- a. carbon dioxide. c. water.
- b. sunlight. d. oxygen.

A Place to Live (p. 41)

14. What do organisms need in the space where they live?

Chapter 2, continued

15. Look at Figure 10. What does the warbler's song mean to other warblers?

Review (p. 41)

Now that you've finished Section 2, review what you learned by answering the Review questions in your ScienceLog.

Section 3: The Chemistry of Life (p. 42)

1. Atoms are made up of molecules. True or False? (Circle one.)
2. What five compounds are in all cells?

Proteins (p. 42)

Choose the term in Column B that best matches the phrase in Column A, and write the corresponding letter in the space provided.

Column A	Column B
___ 3. make up proteins	a. hemoglobin
___ 4. proteins that speed up chemical reactions	b. water
___ 5. protein found in red blood cells that attaches to oxygen	c. amino acids
___ 6. more abundant in cells than protein	d. enzymes

Carbohydrates (p. 43)

7. Cells use carbohydrates, a group of compounds made of _____, to store energy and to use as a source of _____.
8. Look at the Brain Food in the right column of page 43. Your _____ is determined by carbohydrates attached to proteins on your red blood cells.
9. Carbohydrates made of one sugar molecule are called _____ carbohydrates. (simple or complex)

Chapter 2, continued

10. In terms of carbohydrates, what are you eating when you eat mashed potatoes?

Lipids (p. 44)

Mark each of the following statements *True* or *False*.

- 11. _____ Lipids mix easily with water.
- 12. _____ Some lipids store energy for the cell.
- 13. _____ Usually, animals store lipids in the form of oil while plants store lipids in the form of fat.
- 14. _____ Special lipids, called phospholipids, form the membrane that surrounds cells.
- 15. _____ When phospholipid molecules come together in water, they form two layers.

Nucleic Acids (p. 45)

16. Why are nucleic acids called the blueprints of life?

17. DNA, which contains information about how to make proteins, is a nucleic acid. True or False? (Circle one.)

The Cell's "Gasoline" (p. 45)

- 18. All cell activities that require _____ are fueled by a molecule called ATP.
- 19. Cells must transfer the energy in lipids to ATP before the cells can use the energy. True or False? (Circle one.)

Review (p. 45)

Now that you've finished Section 3, review what you learned by answering the Review questions in your ScienceLog.