

**Cell Structure and Function ■ Guided Reading and Study**

# Discovering Cells

*This section describes how the invention of the microscope led to the development of a theory on cells. The section also explains how a light microscope works.*

## An Overview of Cells

1. What are cells?

\_\_\_\_\_

\_\_\_\_\_

## First Observations of Cells

2. What did the invention of the microscope make possible?

\_\_\_\_\_

\_\_\_\_\_

3. An instrument that makes small objects look larger is a(n) \_\_\_\_\_.

4. Is the following sentence true or false? A compound microscope has only one lens. \_\_\_\_\_

5. Complete the following table about the first people to observe cells.

The First People to Observe Cells		
Questions	Robert Hooke	Anton van Leeuwenhoek
What kind of microscope did he use?		
What did he first look at with the microscope?		

## Development of the Cell Theory

6. List the three points of the cell theory.

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_

## Light and Electron Microscopes

8. Is the following sentence true or false? Magnification is the ability to make things look larger than they are. \_\_\_\_\_

9. How do the lenses of a light microscope make an object look larger?

\_\_\_\_\_

\_\_\_\_\_

10. In a convex lens, the \_\_\_\_\_ of the lens is thicker than the \_\_\_\_\_.

11. What is resolution?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

12. A microscope that uses a beam of electrons to examine a specimen is called a(n) \_\_\_\_\_.

13. Circle the letter of the microscope that has better resolution.

- a. light microscope
- b. electron microscope

Name \_\_\_\_\_ Date \_\_\_\_\_ Class \_\_\_\_\_

Cell Structure and Function ■ *Review and Reinforce***Discovering Cells****Understanding Main Ideas***Fill in the blanks in the table below.***Discovering Cells**

Scientist	Contribution
1. _____	One of the first people to observe cells
Leeuwenhoek	2. _____
3. _____	Concluded that all plants are made up of cells
Schwann	4. _____
5. _____	Proposed that all cells come from other cells

*Answer the following questions on a separate sheet of paper.*

6. Compare and contrast magnification and resolution.

7. State how an electron microscope differs from a light microscope.

8. Explain how cells are related to living things.

**Building Vocabulary***Match each term with its definition by writing the letter of the correct definition in the blank beside the term.*

\_\_\_ 9. cell

\_\_\_ 10. microscope

\_\_\_ 11. cell theory

a. a widely accepted explanation of the relationship between cells and living things

b. the basic unit of structure and function in living things

c. any instrument that makes small objects look larger