Name _____ Date _____ Class _____

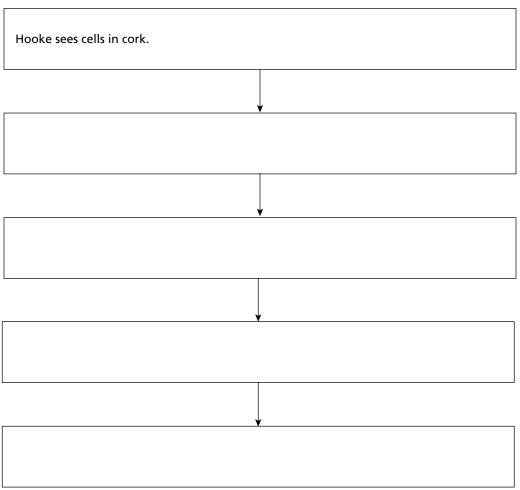**Cell Structure and Function** ▪ *Guided Reading and Study*

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.

Use Target Reading Skills

As you read, construct a flowchart showing how the work of Hooke, Leeuwenhoek, Schleiden, Schwann, and Virchow contributed to scientific understanding of cells.

Discovering Cells

Hooke sees cells in cork.

↓

↓

↓

↓

An Overview of Cells

1. What are cells?

_____

_____

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Discovering Cells *(continued)*

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. Is the following sentence true or false? Theodor Schwann worked alone to develop the cell theory. _____

7. List the three points of the cell theory.

a. _____

b. _____

c. _____

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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

Cell Structure and Function