CHAPTER 3 ACTIVE READING WORKSHEETS TEK 3F, 4A

CELL STRUCTURE AND FUNCTION

Section 3-1: The History of Cell Biology

Read the passage below, which covers topics from your textbook. Answer the questions that follow.

The discovery of cells was made possible by the development of the microscope in the 17th century. In 1665, the English scientist Robert Hooke used a microscope to examine a thin slice of cork. Hooke described it as consisting of "a great many little boxes." These "little boxes" reminded him of the cubicles or "cells" in which monks lived, so he called them cells.

What Hooke had observed were actually the remains of dead plant cells. The first person to observe living cells was a Dutch trader, Anton van Leeuwenhoek. Although van Leeuwenhoek's microscope was rather simple, in 1673 it was powerful enough to enable him to view the world of microscopic organisms which had never before been seen.

About 150 years passed before scientists began to organize the observations begun by Hooke and van Leeuwenhoek into a unified theory known as the cell theory. This theory has three parts:

(1) All living things are composed of one or more cells.
(2) Cells are the basic units of structure and function in an organism.
(3) Cells come only from the reproduction of existing cells.

Read each question and write your answer in the space provided.

SKILL: Identifying Main Ideas

1. What caused scientists to discover the existence of cells?

2. What are the small rooms that monks lived in called?

3. What did Hooke observe in the cork slice?

LIVEWORKSHEETS

4. What discovery is van Leeuwenhoek noted for?

5. What are the three parts of the cell theory?

Read the passage below, which covers topics from your textbook. Answer the questions that follow.

Early evidence for the cell theory was provided by German scientists. In 1838, the botanist Matthias Schleiden concluded that all plants are composed of cells. A year later, the zoologist Theodor Schwann came to the same conclusion about animals. In 1855, Rudolf Virchow, a physician who had been studying how disease affects living things, reasoned that cells come only from other cells. Over the years, modern scientists have gathered much additional evidence that strongly supports the cell theory.

Use the two passages to complete the table below.

SKILL: Organizing Information

6. The figure below indicates events that lead up to the cell theory. Complete the table by filling in the blank spaces.

Date	Scientist	Discovery
1665	**a.**	observed the remains of dead plant cells
b.	Anton van Leeuwenhoek	**c.**
1838	Matthias Schleiden	**d.**
e.	**f.**	stated that all animals are made of cells
1855	**g.**	**h.**

Circle the letter of the phrase that best completes the sentence.

7. The cell theory was
   a. first identified in 1665.
   b. the end result of many scientific investigations.
   c. described by Rudolf Virchow.
   d. Both (a) and (b)

LIVEWORKSHEETS