

7 Cellular Structure and Function

BIG IDEA

Write the Big Idea for this chapter.

Use the “What I Know” column to list the things you know about the Big Idea. Then list the questions you have about the Big Idea in the “What I Want to Find Out” column. As you read the chapter, fill in the “What I Learned” column.

K <i>What I Know</i>	W <i>What I Want to Find Out</i>	L <i>What I Learned</i>

7 Cellular Structure and Function

1 Cell Discovery and Theory

TEKS 2(A), 2(B), 2(C), 3(F), 4(A), 7(G)

MAIN IDEA

Write the Main Idea for this lesson.

REVIEW VOCABULARY

organization

Recall the definition of the Review Vocabulary term.

organization

NEW VOCABULARY

cell

cell theory

plasma membrane

organelle

eukaryotic cell

nucleus

prokaryotic cell

Use your book to define each term.

cell

cell theory

plasma membrane

organelle

eukaryotic cell

nucleus

prokaryotic cell

1 Cell Discovery and Theory (continued)

Student Edition, pp. 182–186

Reading Essentials pp. 69–71

Identify the three main ideas of the cell theory. Then write a short sentence for each one describing each idea.

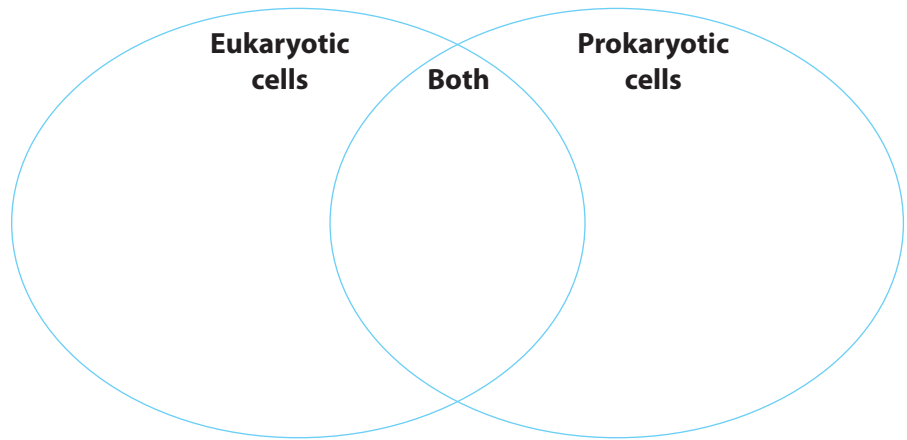
GET IT? Explain Can cells appear spontaneously without genetic material from previous cells?

Summarize information about electron microscopes using five or six bullet points.

1 Cell Discovery and Theory (continued)

Compare and contrast eukaryotic and prokaryotic cells by putting the phrases in the Venn diagram.

- bacteria
- contain organelles
- have a nucleus
- have membrane-bound organelles
- multicellular organisms
- unicellular organisms
- do not have membrane-bound organelles



Relate the basic cell types by filling in the missing terms.

The _____ cell is larger and more complex than the _____ cell. Eukaryotic cells contain a structure called the _____ which is a distinct central organelle that contains the cell's _____ material. _____ are specialized structures that carry out specific cell functions.

The cell, nucleus, and all of the organelles are surrounded by a _____. Prokaryotes do not have _____. Their cell functions occur _____ the cell or on the plasma membrane.

GET IT? **Compare** the sizes of prokaryotic cells and eukaryotic cells.

1 Cell Discovery and Theory (continued)

REVIEW IT!

1. **MAIN IDEA Explain** how the development and improvement of microscopes changed the study of living organisms and potentially changed theories.

2. **Compare and contrast** a compound light microscope and an electron microscope.

3. **Summarize** the cell theory.

4. **Differentiate** the plasma membrane and the organelles.

5. **Describe** how you would determine whether the cells of a newly discovered organism were prokaryotic or eukaryotic.

6. If the overall magnification of a series of two lenses is $30\times$, and one lens magnifies $5\times$, what is the magnification of the other lens? Calculate the total magnification if the $5\times$ lens is replaced by a $7\times$ lens.