Name _____ Class _____ Date _____

7.2 Cell Structure

Lesson Objectives

- Describe the structure and function of the cell nucleus.
- Describe the role of vacuoles, lysosomes, and the cytoskeleton.
- Identify the role of ribosomes, endoplasmic reticulum, and Golgi apparatus in making proteins.
- Describe the function of the chloroplasts and mitochondria in the cell.
- Describe the function of the cell membrane.

BUILD Vocabulary

A. The chart below and on the next page shows key words from the lesson with their definitions. Complete the chart by writing a strategy to help you remember the meaning of each term. One has been done for you.

Term	Definition	How I'm Going to Remember the Meaning
Cell wall	Structure around plant cells, fungus cells, and some bacterial cells that supports and protects	***A wall surrounds and protects a building like a* cell wall *surrounds and protects a cell.***
Centriole	Structure in animal cells that helps organize cell division	
Chloroplast	Structure in plant cells that captures the sun's energy and changes it into chemical energy	
Cytoplasm	Fluid portion of the cell outside the nucleus	
Cytoskeleton	Network of protein filaments that gives a cell its shape and organizes its organelles	
Endoplasmic reticulum	Internal membrane system of a cell where proteins are assembled	
Golgi apparatus	Series of flattened sacs that prepares proteins and other materials for export from the cell	

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Term	Definition	How I'm Going to Remember the Meaning
Lysosome	Enzyme-filled structure that breaks down complex molecules or worn-out organelles	
Mitochondrion	Organelle that changes the chemical energy in food into a form that is easier for the cell to use	
Organelle	Structure within a cell that acts like a specialized organ	
Ribosome	Structure that assembles proteins	
Vacuole	Saclike structure that stores materials like water and nutrients	

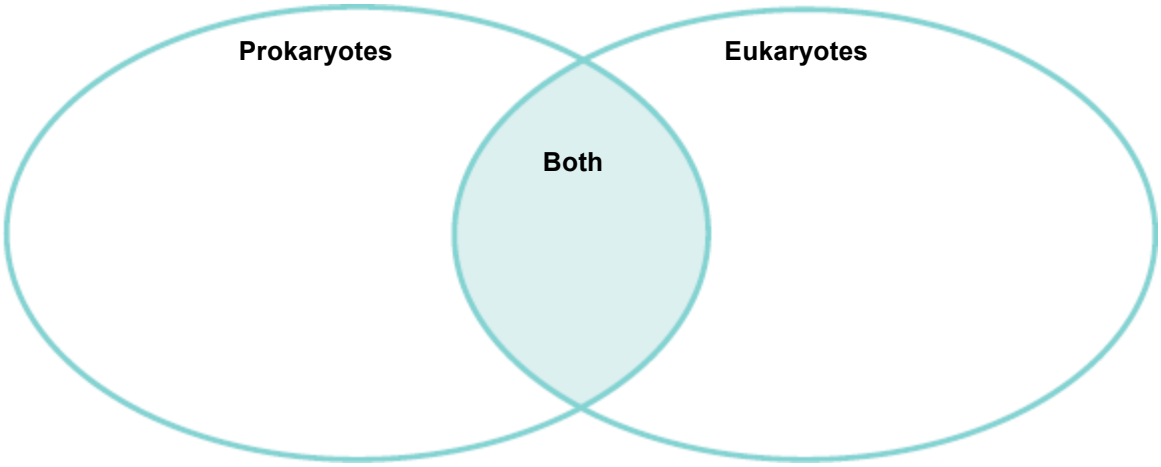
B. As you work through this lesson, you may find these terms in the activities. When you need to write a key term or a definition, **highlight** the term or the definition.

BUILD Understanding

Venn Diagram A Venn diagram is made up of overlapping circles. It is a useful tool for comparing two or even three topics.

Use terms from the box to complete the Venn diagram.

cell membrane	**cytoskeleton**	**mitochondria**
cell wall	**DNA found in cytoplasm**	**nucleus containing DNA**
centriole	**endoplasmic reticulum**	**ribosome**
chloroplast	**Golgi apparatus**	**vacuole**
cytoplasm	**lysosome**	



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Cell Organization

An organelle is a specialized cell structure. Each organelle functions in a different way. All of the organelles help the cell carry out life processes.

Use the terms in the box to write the name of the organelle underneath its picture.

endoplasmic reticulum	Golgi apparatus	mitochondrion	nucleus

Organelle	Function
 _____	Controls most cell processes and stores genetic material
 _____	Where lipid parts of the cell membrane and proteins for export are assembled and stored
 _____	Modifies, sorts, and packages materials from the endoplasmic reticulum
 _____	Converts the energy stored in food into a more usable form

BUILD Connections

The Cell As a Living Factory An analogy takes two things that seem to be different and shows how they can be similar.

1. If the cell were a factory, what part would serve as the main office? _____
2. Which cell part would provide electricity? _____
3. With a partner, discuss how the actions of the forklifts are related to actions in cells. _____

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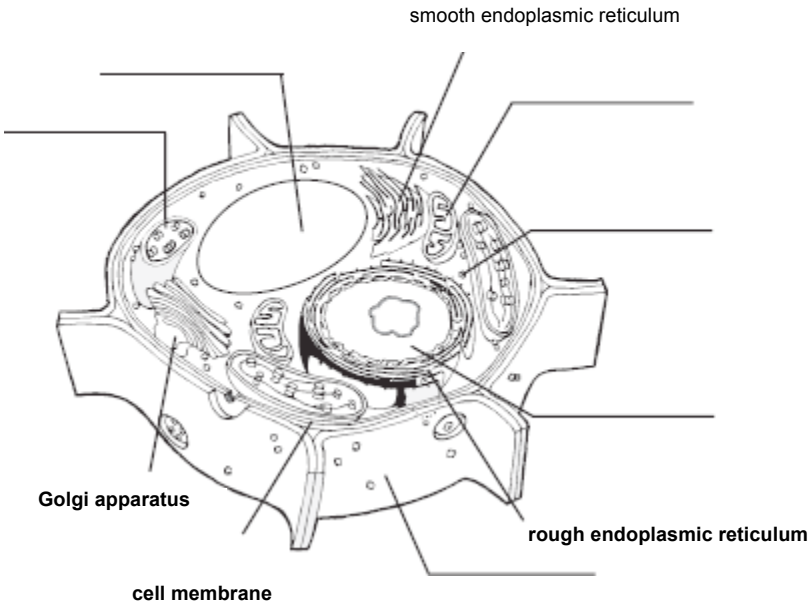
Cell Organization

Follow the directions.

1. Use the words below to label the plant cell. Some structures have been labeled for you.

cell wall	**mitochondrion**	**ribosome**
chloroplast	**nucleus**	**vacuole**

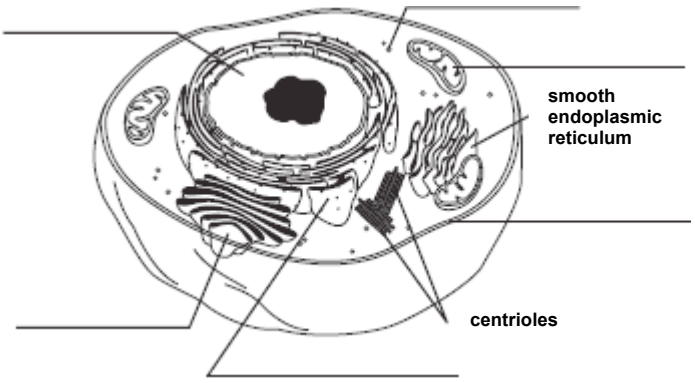
Plant Cell



2. Use the words below to label the animal cell. Some structures have been labeled for you.

cell membrane	**mitochondrion**	**rough endoplasmic reticulum**
Golgi apparatus	**nucleus**	**ribosome**

Animal Cell



Use the diagrams to answer the questions.

3. Which structure is found in a plant cell but not in an animal cell? Circle the correct answer.

chloroplast cell membrane ribosome

4. What is the main function of vacuoles? _____