



### Lesson Objectives

By the end of this lesson, you should be able to:

- Identify the  found within a cell.
- Describe the  of each organelle within the cell.

**Science Practice:** Construct charts, graphs, and tables to .



### Words to Know

Fill in this table as you work through the lesson. You may also use the glossary to help you.

cell membrane	an organelle that provides a protective layer around a cell and controls what <input type="text"/> and <input type="text"/> the cell
cell wall	a strong, supporting layer around the <input type="text"/> in plants, algae, and some bacteria
centrioles	a pair of cylindrical structures that are located near the nucleus and help to organize <input type="text"/>
chloroplast	a specialized organelle in green plant cells and some other photosynthetic organisms that captures the energy from sunlight and <input type="text"/> it into chemical energy
cytoplasm	a jellylike substance that <input type="text"/> and <input type="text"/> organelles in a cell



## Words to Know

endoplasmic reticulum	an organelle that moves <input type="text"/> and other substances through a cell
Golgi apparatus	an organelle that <input type="text"/> and <input type="text"/> proteins received from the endoplasmic reticulum
lysosome	an organelle that contains digestive enzymes that <input type="text"/> waste material and debris in a cell
mitochondrion	an organelle that breaks down sugar molecules to supply <input type="text"/> to a cell
nucleus	an organelle that directs cell activity, acting as the <input type="text"/>
ribosome	an organelle that produces <input type="text"/> for a cell
vacuole	an organelle used as <input type="text"/> for water, waste products, food, and other cellular material

# Instruction

## The Function of Organelles

Slide

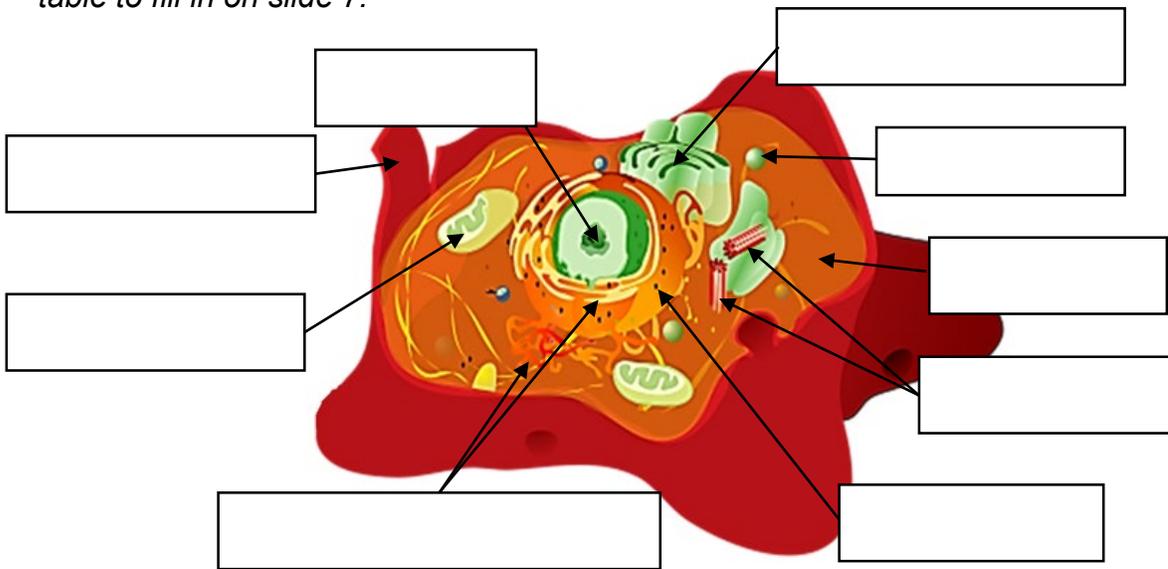
1

### Lesson Question

2

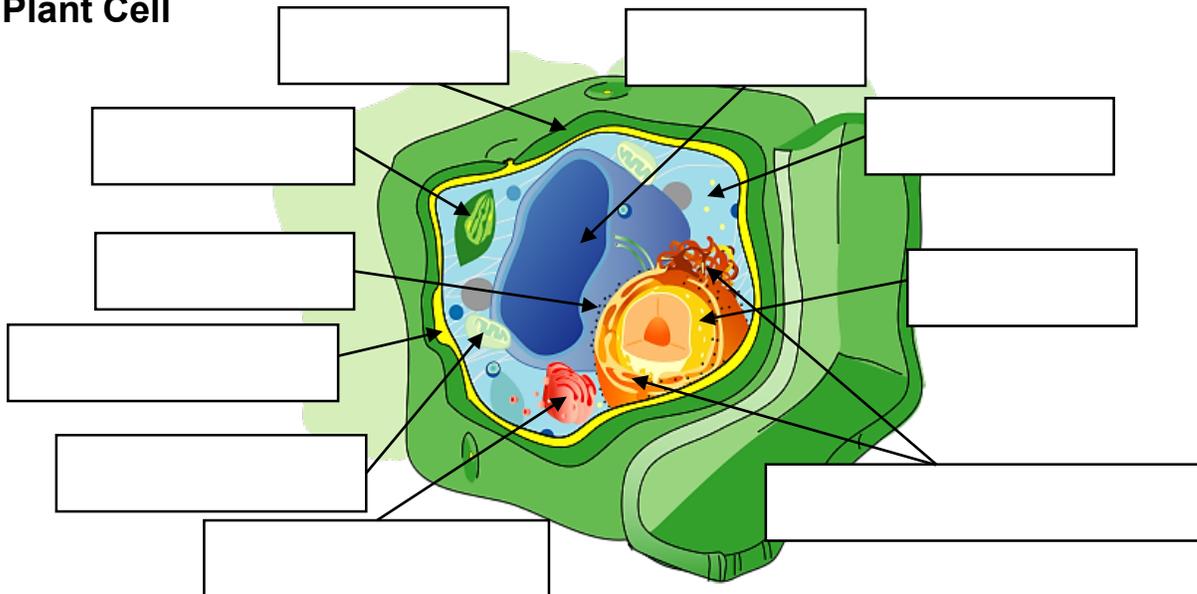
### Animal Cell

The onscreen instructor suggests you take notes in a table. You will be given that table to fill in on slide 7.



4

### Plant Cell



Slide

6

**What are the roles of different organelles in a cell?**

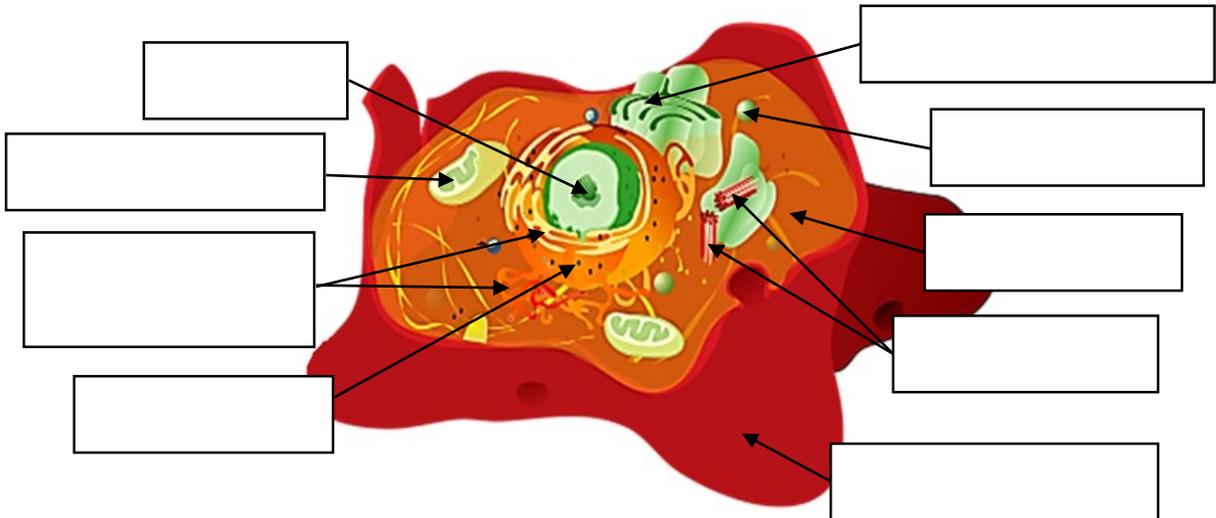
Animal and plant cells contain many of the same .

cells also contain two organelles not found in  cells:

and .

7

**Animal Cell Organelles**



Slide

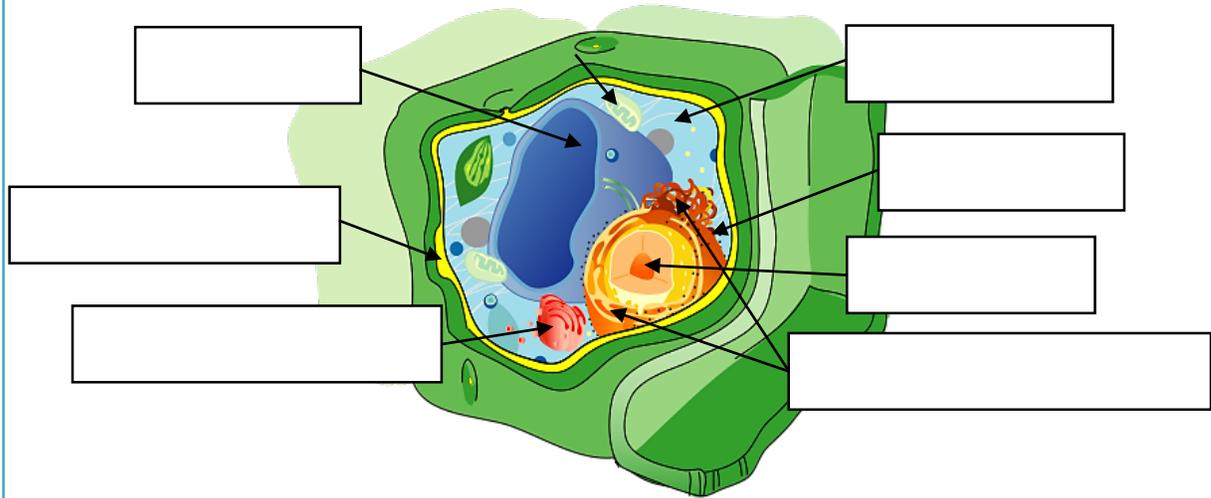
7

Organelle	Description	Factory Role
	Directs cell activity	
	Produces proteins for the cell	
	Moves proteins and other substances through the cell	
	Packages and distributes proteins received from the endoplasmic reticulum	
	Breaks down waste materials and debris	
	Breaks down sugar molecules to supply energy	
	Protects cell and controls what enters and leaves	
	Supports and protects organelles in the cell	
	Help to organize cell division	

Slide

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**Plant Cell Organelles**



**ORGANELLES THAT ARE THE SAME IN PLANT AND ANIMAL CELLS**

Nucleus		Endoplasmic reticulum	
	Mitochondrion		Cytoplasm

**ORGANELLES THAT ARE DIFFERENT OR UNIQUE IN PLANT CELLS**

Organelle	Description	Factory Role
	<ul style="list-style-type: none"> <li>– Uses light energy to make food and carbohydrates for plants</li> <li>– Unique to plant cells</li> </ul>	
	<ul style="list-style-type: none"> <li>– Supports and maintains the shape of the cell and protects it from damage</li> <li>– Unique to plant cells</li> </ul>	
	<ul style="list-style-type: none"> <li>– Temporary storage for water, waste products, food, and other cellular material</li> <li>– Can be found in animal cells, but they are usually smaller and harder to identify</li> </ul>	

# Summary

## The Function of Organelles



### Lesson Question

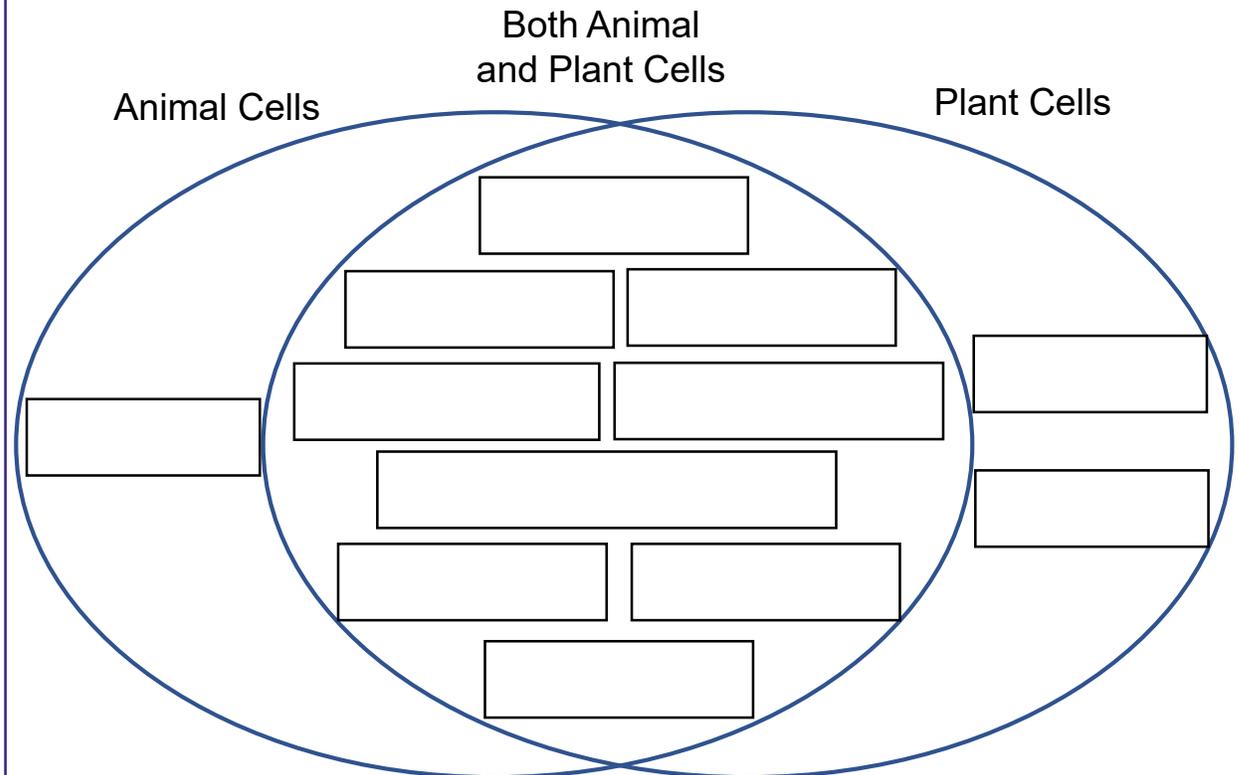
What are the roles of different organelles in a cell?



### Answer

Slide  
2

### Review: Organelles



Vacuoles are more common in  cells and fairly rare in  cells.

Lysosomes are more frequent in  cells and fairly rare in  cells.

# Summary

## The Function of Organelles

*Use this space to write any questions or thoughts about this lesson.*