

# Inside a Cell

## Logistics

### Time Required

- ▶ **Class Time:**  
30 minutes
- ▶ **Prep Time:**  
10 minutes

### Materials

Student handouts, computers with internet access

### Prior Knowledge Needed

None

### Appropriate For:

Primary    Intermediate    Secondary    College

## Credits

Kerry Geisen, Jordan High School, Jordan, MN  
Molly Malone, Genetic Science Learning Center  
Harmony Starr, Genetic Science Learning Center (illustrations)

## Funding

Funding for this module was provided by a Science Education Partnership Award from the National Center for Research Resources, a component of the National Institutes of Health.

## Abstract

An optional fill-in-the-blank table to use in conjunction with the interactive activity of the same title ([url above](http://learn.genetics.utah.edu)). Students navigate the inside of a cell to see the organelles in action and learn their function. An answer key is provided.

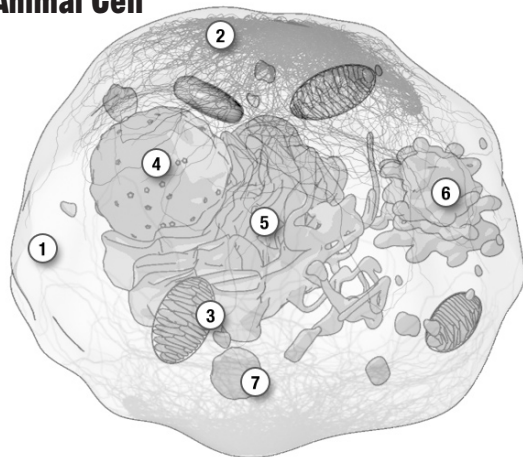
## Learning Objectives

- ▶ Cells have internal parts, each with a specific function.
- ▶ The interior of a cell is a dynamic and busy environment.

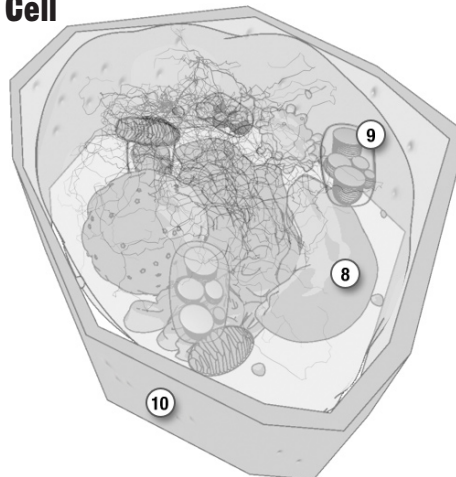
# Inside A Cell

## Answer Key

**Animal Cell**



**Plant Cell**



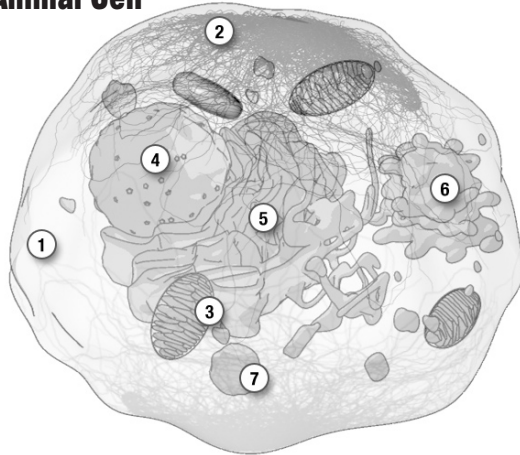
	Organelle	What does it do?	Other Notes
1	Cell Membrane	<i>Allows molecules to pass in and out of the cell.</i>	<i>Formed by lipid molecules that naturally arrange themselves into spheres.</i>
2	Cytoskeleton	<i>Provides structure, helps organize cell division, functions as a system of roads for motor proteins.</i>	
3	Mitochondrion	<i>Generates a cell's energy.</i>	<i>Has its own genome, and circular DNA similar to bacteria.</i>
4	Nucleus	<i>Stores and protects DNA, DNA is copied to RNA here.</i>	<i>Pores selectively allow molecules in and out.</i>
5	Endoplasmic Reticulum	<i>Provides a place for ribosomes to carry out protein synthesis, stores enzymes, and provides a surface upon which chemical reactions can occur.</i>	<i>1/2 the total amount of membrane in a cell.</i>
6	Golgi Apparatus	<i>Provides an area where macromolecules are tagged with labels.</i>	<i>Transport proteins use these labels to deliver the macromolecules to the proper place in the cell.</i>
7	Lysosome	<i>Contains digestive enzymes that break down discarded proteins.</i>	<i>This is only one example of many types of vesicles.</i>
8	Vacuole	<i>Stores nutrients, breaks down waste, helps cell grow, provides pressure.</i>	<i>Only in plants.</i>
9	Chloroplast	<i>Converts energy from the sun into sugar.</i>	<i>Have their own genome. Only in plants.</i>
10	Cell Wall	<i>Protects cell from injury and provides support.</i>	<i>Only in plants.</i>

Name \_\_\_\_\_

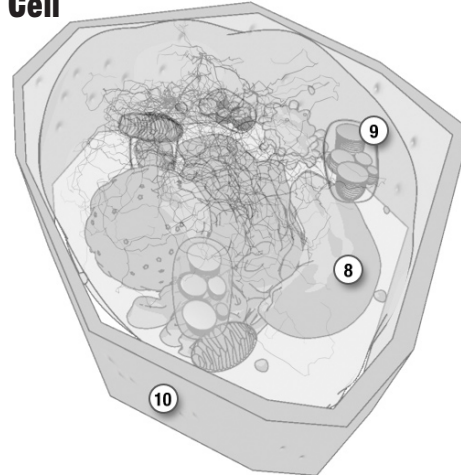
Date \_\_\_\_\_

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**Plant Cell**



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