

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Student Exploration: Cell Structure

**Vocabulary:** cell wall, centriole, chloroplast, cytoplasm, endoplasmic reticulum, Golgi apparatus, lysosome, mitochondria, nuclear envelope, nucleolus, nucleus, organelle, plasma membrane, plastid, ribosome, vacuole, vesicle

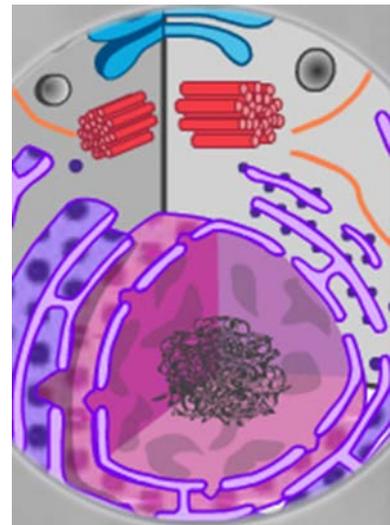
**Prior Knowledge Questions** (Do these BEFORE using the Gizmo.)

1. What are some of the structures inside a cell that help it to live and perform its role in an organism? \_\_\_\_\_  
\_\_\_\_\_
2. How do you think plant cells differ from animal cells? (Hint: What can plants do that animals cannot?) \_\_\_\_\_  
\_\_\_\_\_

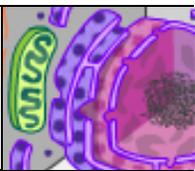
### Gizmo Warm-up

The *Cell Structure* Gizmo™ allows you to look at typical animal and plant cells under a microscope. To start, click **Sample** to take a sample of an animal cell. Use the **Zoom** slider to see the cell at a magnification of 1000x (1000 times larger than normal).

1. Use the up/down and left/right sliders to manipulate the cell. Find the red arrow pointing to the **centrioles**. Make a sketch of the centrioles in the space below.

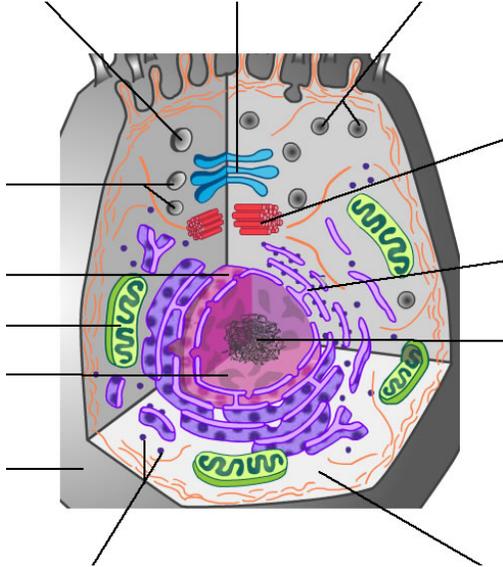


2. Read the description of the centrioles. What is their function? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

<p><b>Activity A:</b> <b>Animal cells</b></p>	<p><u>Get the Gizmo ready:</u></p> <ul style="list-style-type: none"> <li>• Check that an <b>Animal cell</b> is mounted on the microscope.</li> <li>• Set the <b>Zoom</b> to 500x.</li> </ul>	
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**Question:** **Organelles** are specialized structures that perform various functions in the cell. What are the functions of the organelles in an animal cell?

1. Label: Locate each organelle in the animal cell. Label the organelles in the diagram below.



\_\_\_\_\_

2. Match: Read about each organelle. Then match each organelle to its function/description.

- \_\_\_ **Cytoplasm**
- \_\_\_ **Lysosome**
- \_\_\_ **Mitochondria**
- \_\_\_ **Centriole**
- \_\_\_ **Endoplasmic reticulum**
- \_\_\_ **Vacuole**
- \_\_\_ **Plasma membrane**
- \_\_\_ **Nucleus**
- \_\_\_ **Ribosome**
- \_\_\_ **Nuclear envelope**
- \_\_\_ **Golgi apparatus**
- \_\_\_ **Vesicle**
- \_\_\_ **Nucleolus**

- A. Structure that organizes motion of chromosomes.
- B. Stack of membranes that packages chemicals.
- C. Membrane that protects the nucleus.
- D. Membrane that surrounds and protects the cell.
- E. Sac filled with digestive chemicals.
- F. Structures that converts nutrients to energy.
- G. Passageways where chemicals are made.
- H. Jelly-like substance within the plasma membrane.
- I. Structure that manufactures ribosomes.
- J. Structure that contains DNA and directs the cell.
- K. Package created by the Golgi apparatus.
- L. Small structure that synthesizes proteins.
- M. Sac that stores water, nutrients, or waste products.