

Name: _____


Date: _____

Student Exploration: Cell Structure

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

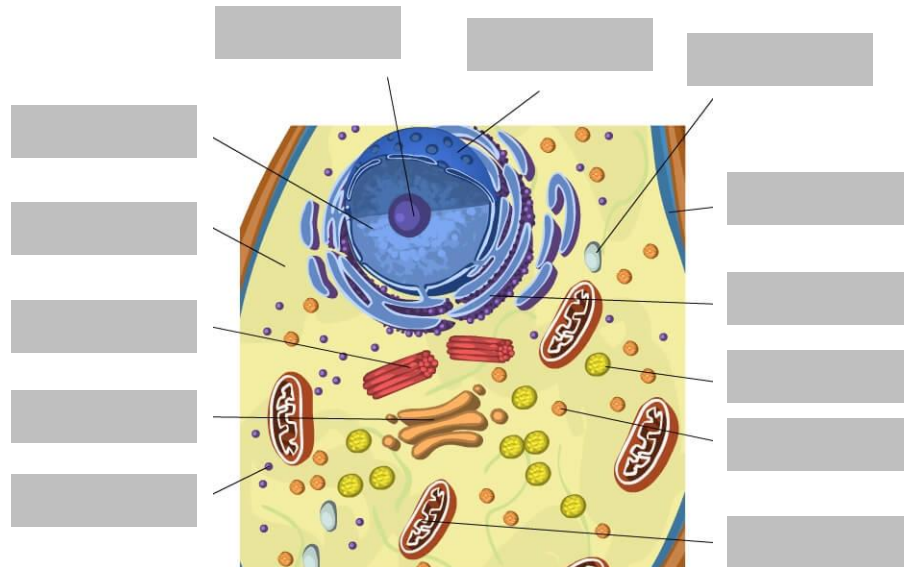
Prior Knowledge Questions (Do these BEFORE using the Gizmo.)

1. Why are we doing this activity? What are we supposed to be learning?

Activity A: Animal cells	<u>Get the Gizmo ready:</u> <ul style="list-style-type: none">• Check that an Animal cell is mounted on the microscope.• Check that the Zoom is set to 2000x.	
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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.



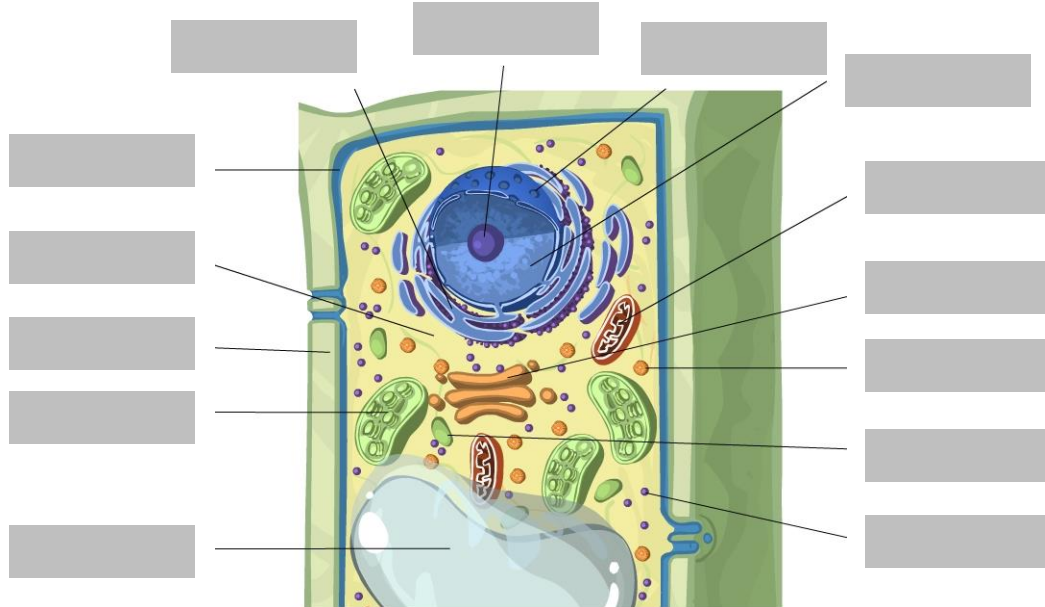
2. Match: Read about each organelle. Then match each organelle to its function/description.

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|----------------------------------|---|
| ___ Cytoplasm | A. Structure that organizes motion of chromosomes. |
| ___ Lysosome | B. Stack of membranes that packages chemicals. |
| ___ Mitochondria | C. Membrane that protects the nucleus. |
| ___ Centriole | D. Sac filled with digestive chemicals. |
| ___ Endoplasmic reticulum | E. Structures that converts nutrients to energy. |
| ___ Vacuole | F. Passageways where chemicals are made. |
| ___ Cell membrane | G. Jelly-like substance within the plasma membrane. |
| ___ Nucleus | H. Structure that contains DNA and directs the cell. |
| ___ Ribosome | I. Small structure that synthesizes proteins. |
| ___ Golgi apparatus | J. Sac that stores water, nutrients, or waste products. |

<p>Activity B: Plant cells</p>	<p><u>Get the Gizmo ready:</u></p> <ul style="list-style-type: none"> • Select the PLANT CELL tab, and click Sample. • Set the Zoom to 2000x. 	
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Question: What functions do the organelles in a plant cell perform?

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



2. Compare: What structures are present in both animal and plant cells (at least 5)? _____

What structures are present in a plant cell, but not in an animal cell (at least 3)? _____

3. Fill in: Name the organelle or organelles that perform each of the following functions.

A. _____ convert sunlight to chemical energy.

B. DNA is stored in the _____.

C. Both animal and plant cells are surrounded by a _____.

D. Only plant cells are surrounded by a _____.

E. The _____ converts food into energy. It is found in both plant cells and animal cells.

F. Proteins are manufactured by the _____.

G. The _____ is responsible for making chemicals for the cell.

H. The _____ is responsible for packaging cellular substances that will be released from the cell.

I. Food, water, and waste are stored by the _____.

J. The _____ digests worn out cell parts with digestive enzymes.

What did you learn in this activity?

Write one question you could see on a quiz based on this activity. Provide the answer.
