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? _____

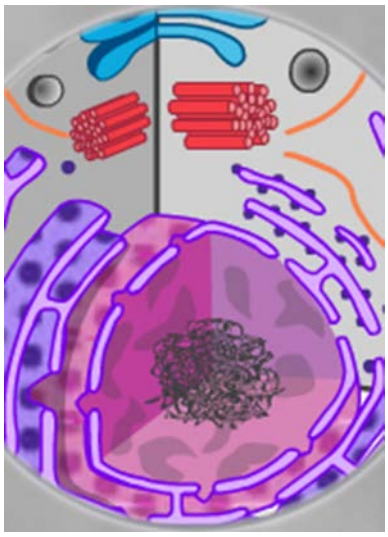
   _____

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).

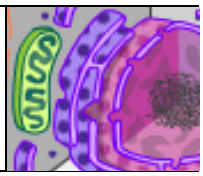


1. Use the up/down and left/right sliders to manipulate the cell. Find the red arrow pointing to the **centrioles**. Make a sketch of the centrioles in the space below.

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

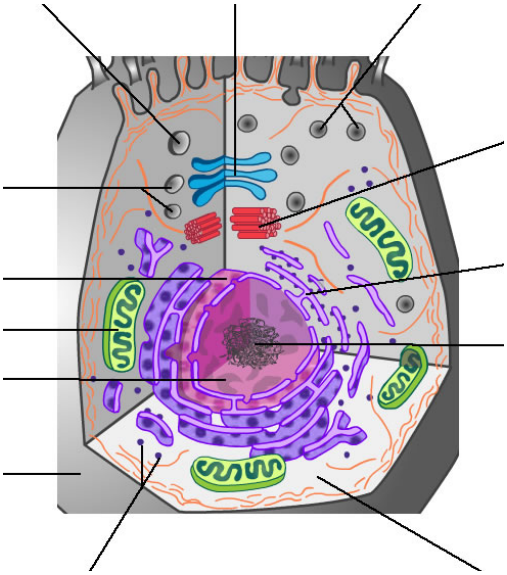
   _____

   _____

Activity A: **Animal cells**	Get the Gizmo ready: • Check that an **Animal cell** is mounted on the microscope. • Set the **Zoom** to 500x.	

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.