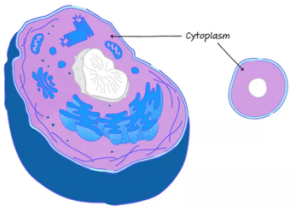
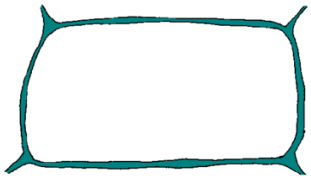
Science 8

Cell Theory 3: Cells and Organelles

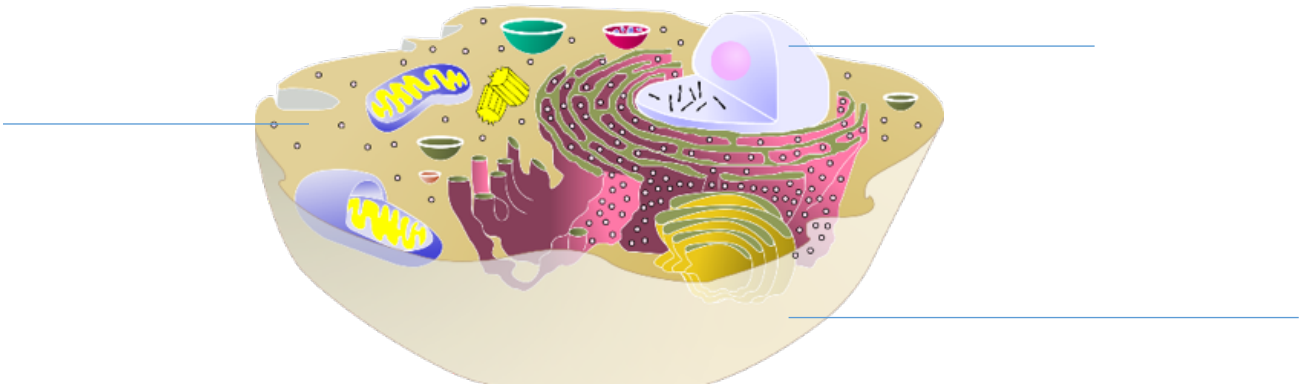
Name:
Date:
Block:

What are the 3 main jobs of cells?	1. Make _____ for the cell to function 2. Make _____ to do all the work in the cell 3. Clean up _____ (produced from making _____)
What parts of the cell do those jobs?	• There are different structures (_____) that carry out the three main jobs. • Organelles are like the cell's _____ • Everything in the cell is an organelle except for the _____

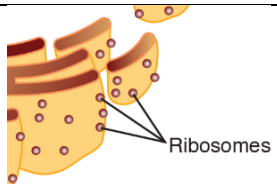
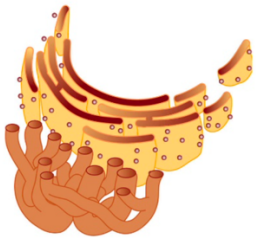
What are organelles and what do they do?

General		• _____ substance • Maintains the _____ of the cell • Contains organelles and other life-supporting materials	
		• _____ of the cell • Controls movements _____ and _____ of the cell. • Flexible	
		• One found in _____ cells • Give the plant _____, so when they're full of water, the plant can stand up straight • _____ (has holes) so some materials can go through it	
		• _____ of the cell, gives instructions • Contains genetic material called _____ • Largest organelle in the cell	

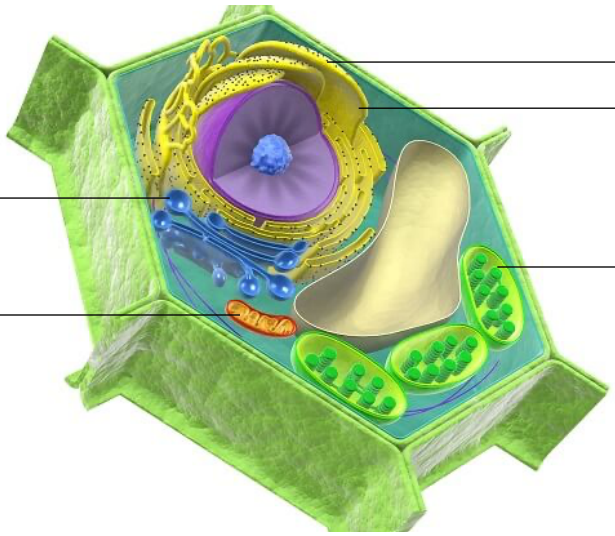
Practice: label the cytoplasm, cell membrane, and nucleus on the _____ cell below:

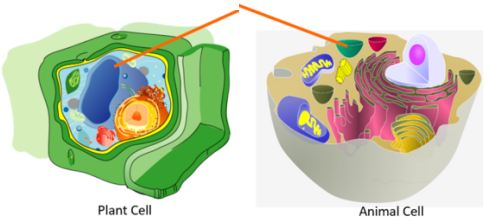
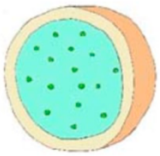


What are organelles and what do they do?

Job #1: Produce energy		• Powerhouse of the cell. • _____ occurs here to release energy for the cell to use in the form of _____	
		• Only in _____ cells • This is where _____ happens, to turn energy from the sun into glucose (a sugar)	
Job #2: Make proteins		• Small particles that make _____ • Found floating free in cytoplasm or attached to _____	
	Endoplasmic Reticulum (_____)	• _____ of the cell (from membrane around nucleus to vesicles headed to Golgi Body) • _____ and other compounds • Can be smooth or rough (with ribosomes attached)	
		• _____ proteins. • Proteins are transported to and from the Golgi body by _____	
	Vesicles	• Vesicles function like a _____ • Carry proteins, nutrients and water in and out of and around the inside of the cell. • VeSicles are like the _____ of the cell	

<u>Practice</u>: label the mitochondria, chloroplasts, ribosomes, endoplasmic reticulum, and Golgi body on the _____ cell:

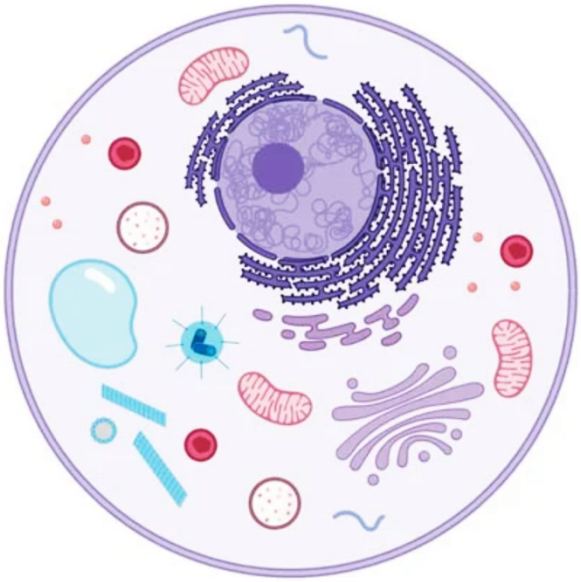


Job #3: Eliminate waste		• _____ container for food, water, waste, etc. • _____ in plant cells	
		• _____ of the cell • Contain digestive enzymes that _____	

Quick Review: Organelles of the Cell

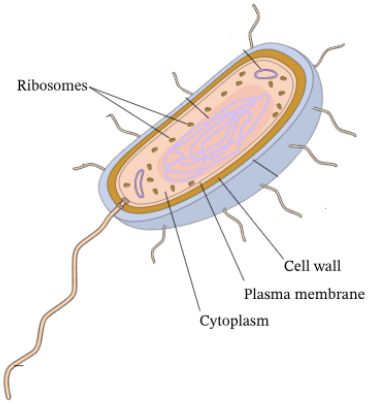
Use the word bank to label the cells below. If an organelle exists in both cells, draw a line to the organelle in each cell from the label.

Cell membrane	Lysosome	Endoplasmic reticulum	Golgi Body
Cell wall	Mitochondria	Ribosome	Cytoplasm
Nucleus	Chloroplast	Vesicle	Vacuole



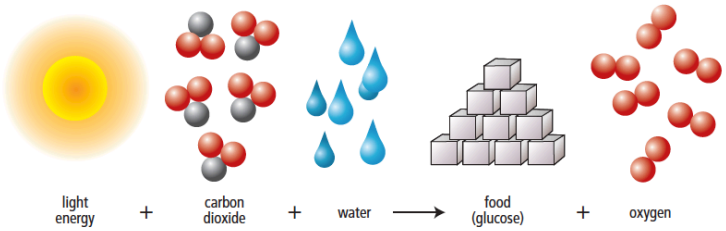
What are the two categories of cells?

- _____
  - _____ nucleus
  - Example: _____
- _____
  - Have a nucleus
  - Example: _____ cells and _____ cells

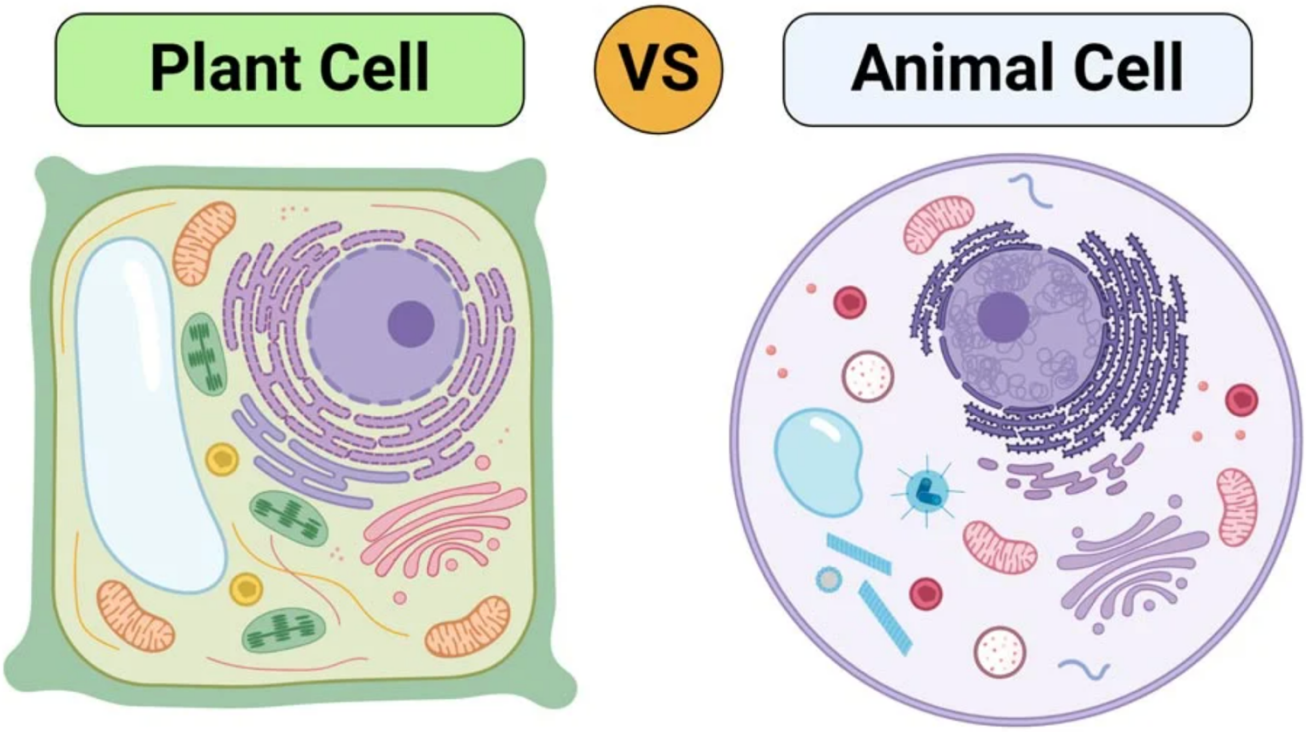


What are the differences between plant and animal cells?

1. _____
   - Found in plant cells and bacterial cells (not in animal cells!)
2. _____
   - Found only in plant cells
   - Contains the green pigment chlorophyll
   - Site of food production during photosynthesis



3. _____
   - Bigger in plant cells than in animal cells.



Quick Review: Plant vs Animal Cells

1. Plant cells have 3 organelles not found in animal cells: the cell wall, a large central vacuole and chloroplasts. Complete the table below using those 3 organelles:

Organelle	Function
	Fluid-filled organelle that stores water, enzymes and waste products. Size of this organelle can vary (change).
	Supports and protects the cell.
	Convert light energy to chemical energy for use by the cell.