List 3 things that all organisms have in common

Made of cells
Made of molecules
Made of Atoms
Use Energy
Grow and Reproduce

What is the energy source for producers?

(for photosynthesis)

What is the energy source for consumers?

Producers
Other Consumers

Name 3 different ways that organisms use energy.

Grow
Move
Reproduce

Objective: Students will review the organelles in cells and make comparisons between cells.

Pick Up: Blank Piece of Paper
Cells Reading Packet (from front H, OL, Spanish)

Agenda: Draw 3 different types of cells
Video to review cells
Read "Cells the Building Blocks of Organisms"

Homework:
Finish Cell Reading and Questions

Let's Draw Together:

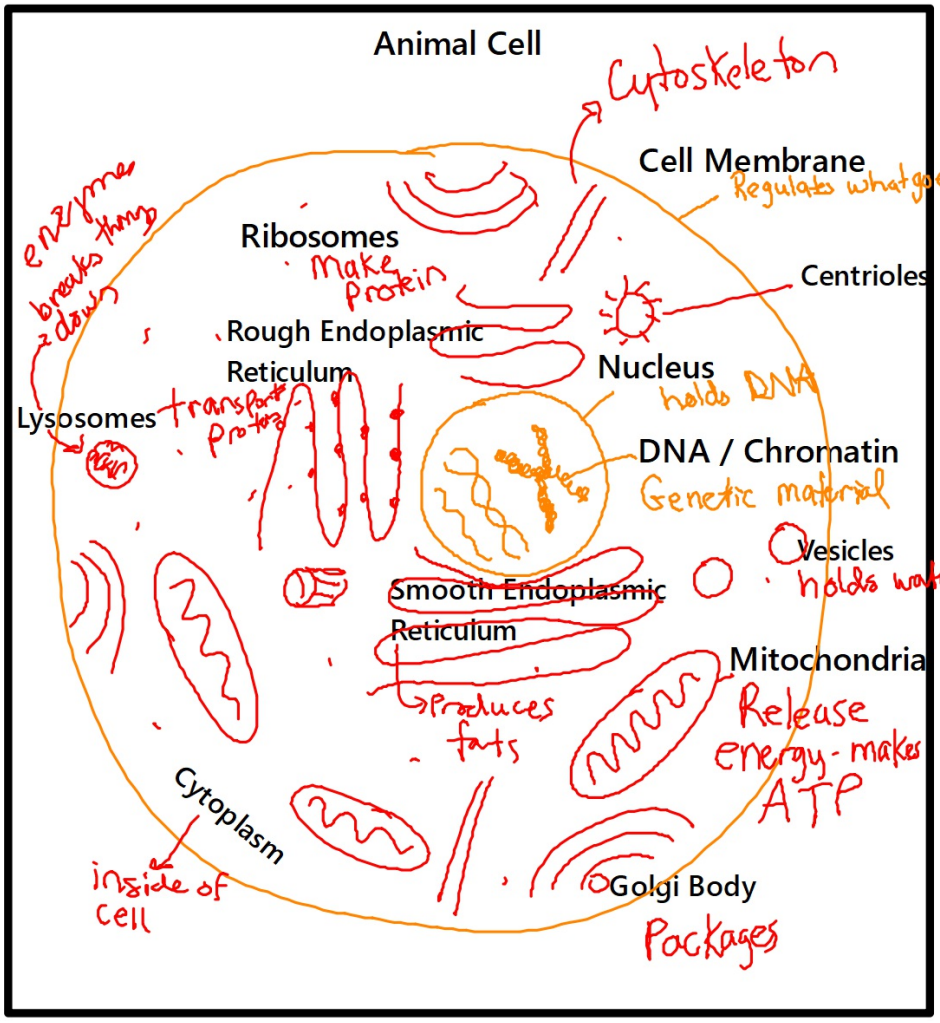
Front

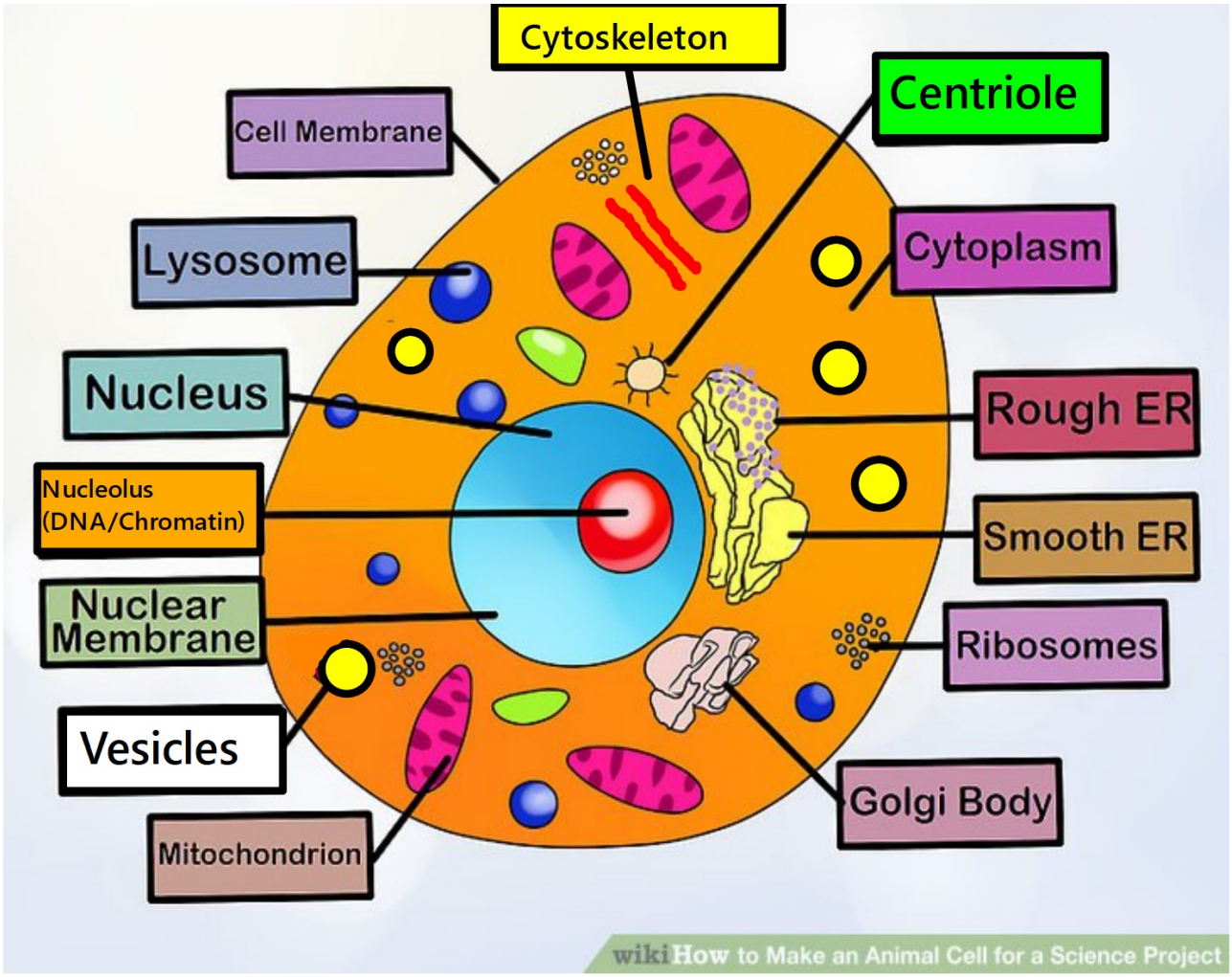
Animal Cell

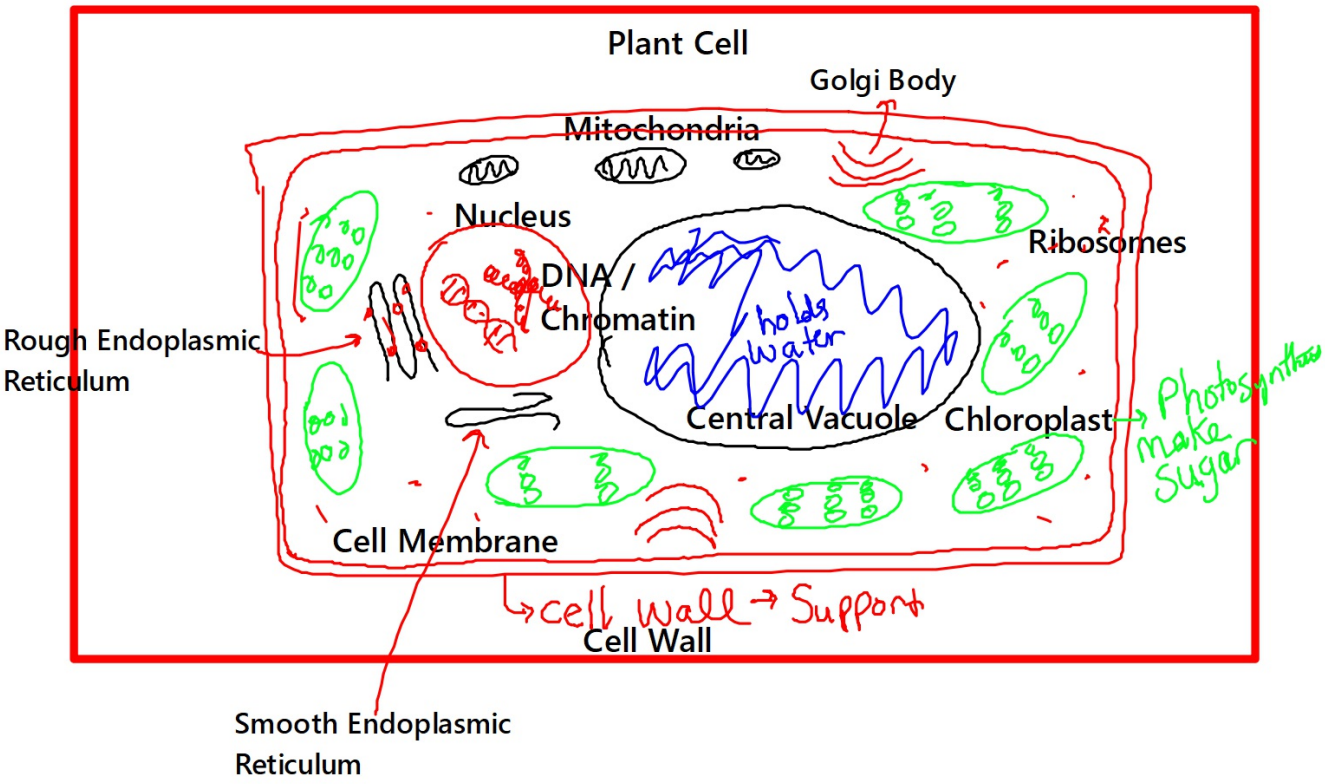
Back

Plant Cell

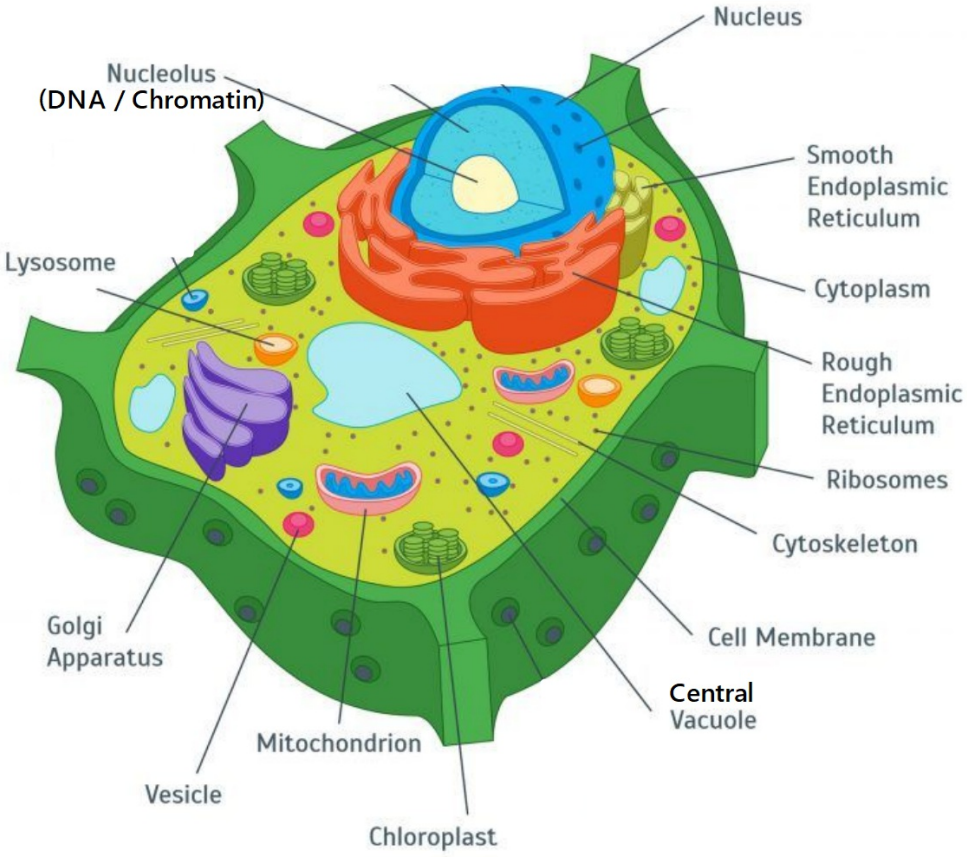
Bacterial Cell

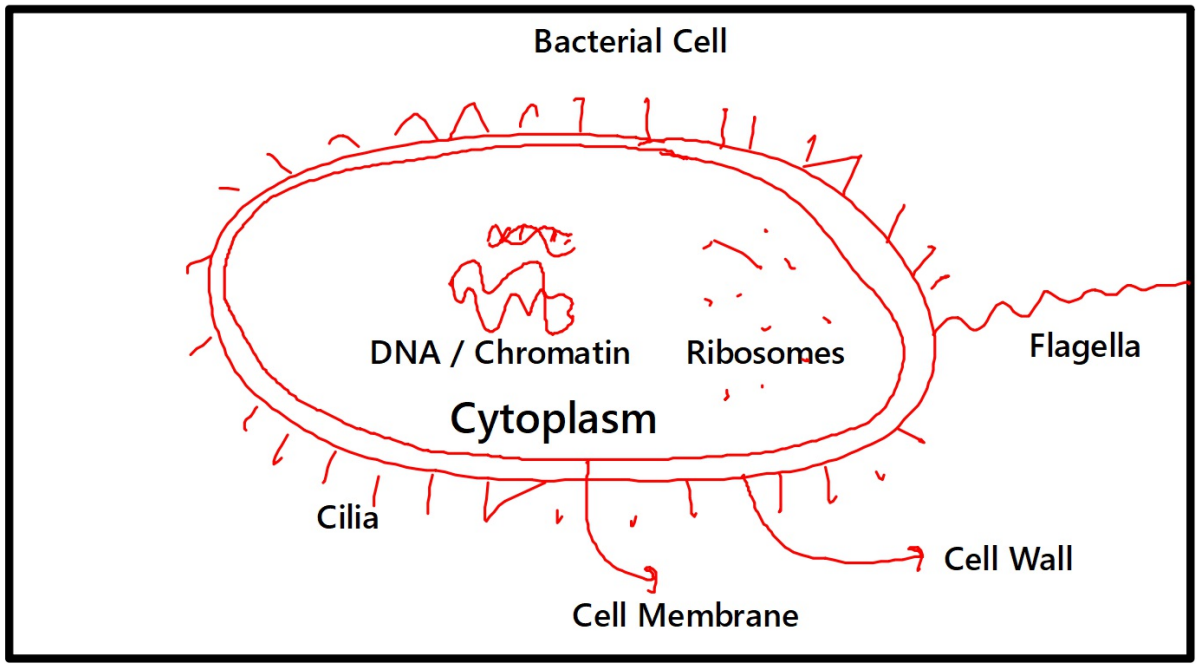

Animal Cell
Cytoskeleton
Cell Membrane
Regulates what goes in and out
enzyme that breaks things down
Ribosomes
Make Protein
Centrioles
organize DNA in cell division
Rough Endoplasmic Reticulum
Nucleus
holds DNA
Lysosomes
transport Proteins
DNA / Chromatin
Genetic material
Vesicles
holds water/food
Smooth Endoplasmic Reticulum
Mitochondria
Produces fats
Release energy - makes ATP
Cytoplasm
inside of cell
Golgi Body
Packages


Cytoskeleton
Centriole
Cell Membrane
Lysosome
Cytoplasm
Nucleus
Rough ER
Nucleolus
(DNA/Chromatin)
Smooth ER
Nuclear
Membrane
Ribosomes
Vesicles
Golgi Body
Mitochondrion
wikiHow to Make an Animal Cell for a Science Project

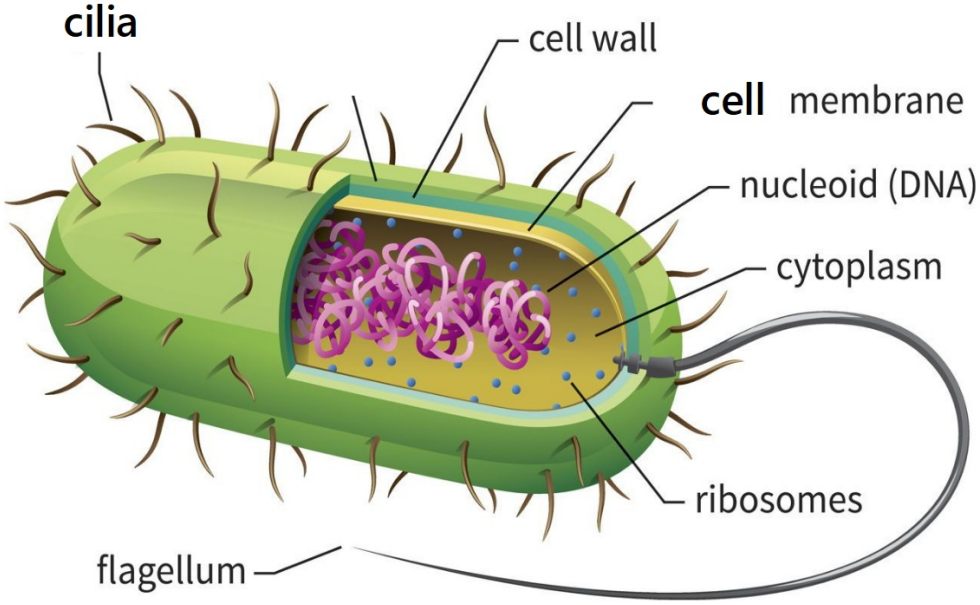

Plant Cell
Golgi Body
Mitochondria
Nucleus
DNA / Chromatin
Ribosomes
Rough Endoplasmic Reticulum
holds water
Central Vacuole
Chloroplast
Photosynthesis make Sugar
Cell Membrane
cell wall → Support
Cell Wall
Smooth Endoplasmic Reticulum

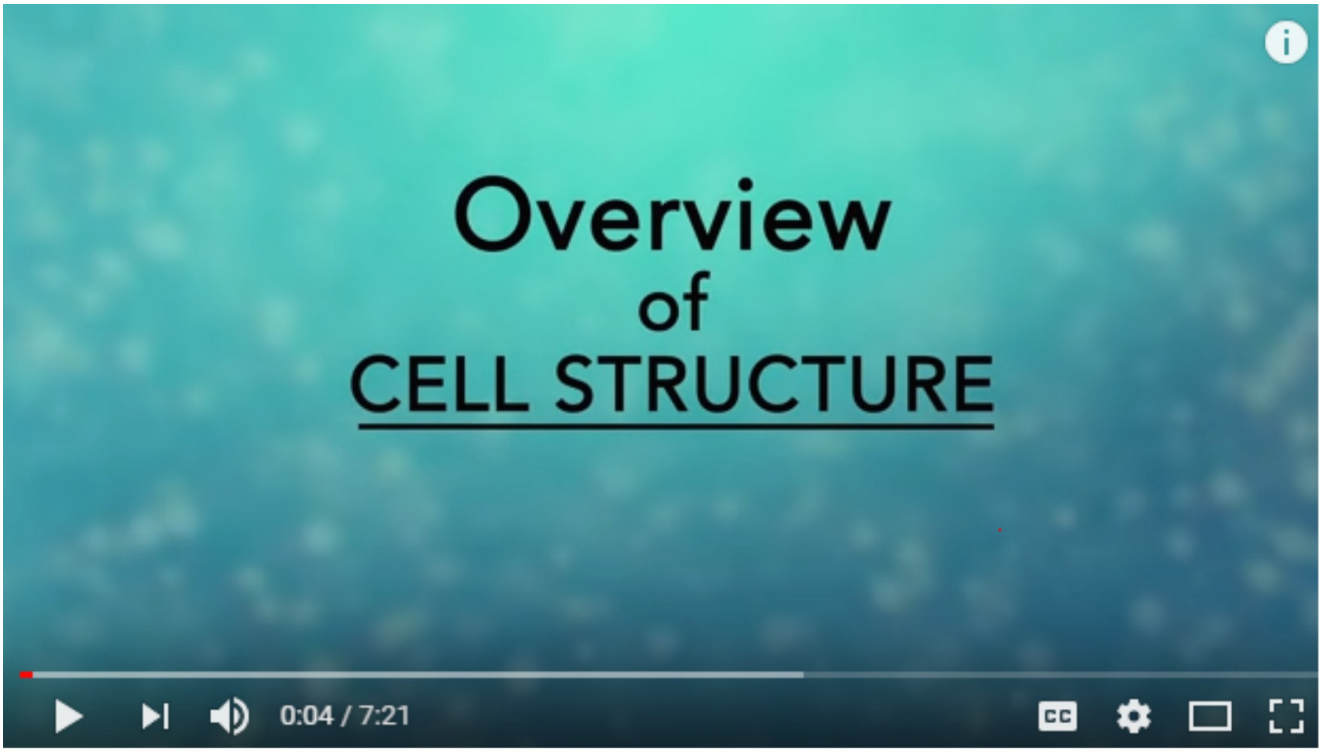
PLANT CELL


Nucleus
Nucleolus
(DNA / Chromatin)
Smooth
Endoplasmic
Reticulum
Lysosome
Cytoplasm
Rough
Endoplasmic
Reticulum
Ribosomes
Cytoskeleton
Golgi
Apparatus
Cell Membrane
Central
Vacuole
Mitochondrion
Vesicle
Chloroplast



Nucleoid Region


cilia
cell wall
cell membrane
nucleoid (DNA)
cytoplasm
ribosomes
flagellum



Listen to this video to review the functions of cells

cytoskeleton moving vesicles in cells video link

Read the 3 Parts of the Reading. Follow Directions and Answer Questions

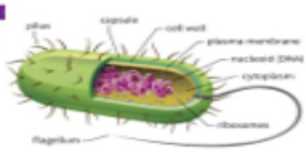
Name:_____ **Period:**_____

Cells: The Building Blocks of Organisms (Honors)

Purpose for Reading: As you read this text, work to make sense of why cells are considered the "building blocks" of organisms. Use this reading as a reference guide for your unit on Cells.

Part 1: Background on Cells

Cells are often referred to as the building blocks of living things because all living this are made up of cells. Animals, plants, and decomposers are made up of cells. Some organisms consist of a single cell, like bacteria. Most bacteria are decomposers but some are producers and can do photosynthesis.



Cells have many parts, each with a different function. Some of these parts, called organelles, are specialized structures that perform certain tasks within the cell.

More complex organisms are made up of many different kinds of cells, like dogs, lettuce plants, and mushrooms. Dogs are in the animal kingdom and are consumers. Lettuce is a plant and is a producer. Mushrooms are fungus and are decomposers.

Eukaryotes vs. Prokaryotes:

Organisms are classified as eukaryotes or prokaryotes. Prokaryotes include bacteria and are all singled celled. Prokaryotes do NOT have a nucleus or any organelles that have membranes

Part 2: Cell Organelle Chart

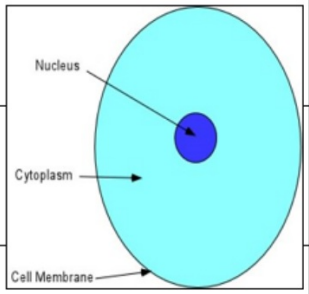
Directions:

1) Read through the Cell Parts Chart.

2) In the "Functions" column, using a highlighter, highlight all of the key verbs that describe the main functions of each organelle.

3) Look in the "What Types of Cells?" column. Underline the cell parts that are found in ALL cells.

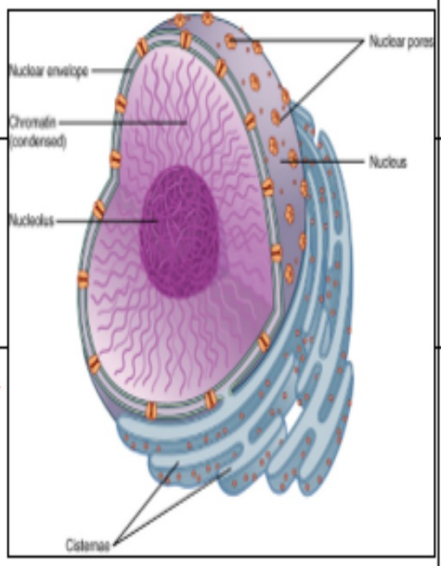
Cell Organelle Chart

Organelle	Description	Function	What types of cells?
CELL WALL 	Rigid, tough, made of cellulose	Protects and supports the cell	NOT in Animals (in plants, fungus, bacteria and some protists)
CELL MEMBRANE (Plasma membrane) 	Thin, covering, protects cells. Made up of two layers of phospholipids. Contains proteins embedded throughout.	Protects the cell, performs active transport and passive transport, moves materials in and out of the cell, communication	ALL Cells have Cell Membranes
CYTOPLASM 	Jelly like substance that contains organelles, made mostly of water	Pads and supports organelles inside the cell.	All Cells have Cytoplasm
NUCLEUS	Dense, ball shaped structure, contains DNA	Controls all of the cell's activities	Eukaryotic Cells (Plants, Animals, Fungus and Protists)

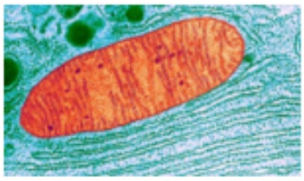
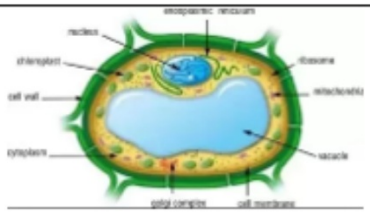
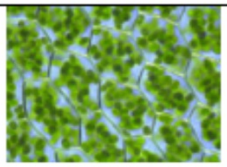
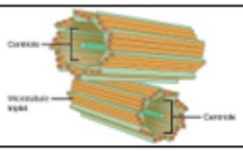
Tomorrow - Open Note MyMCPS Quiz

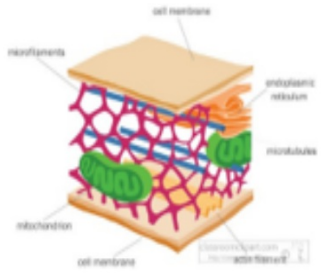
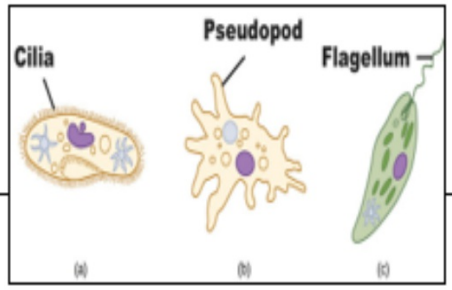
Honors- 1 attempt
OL- 2 attempts

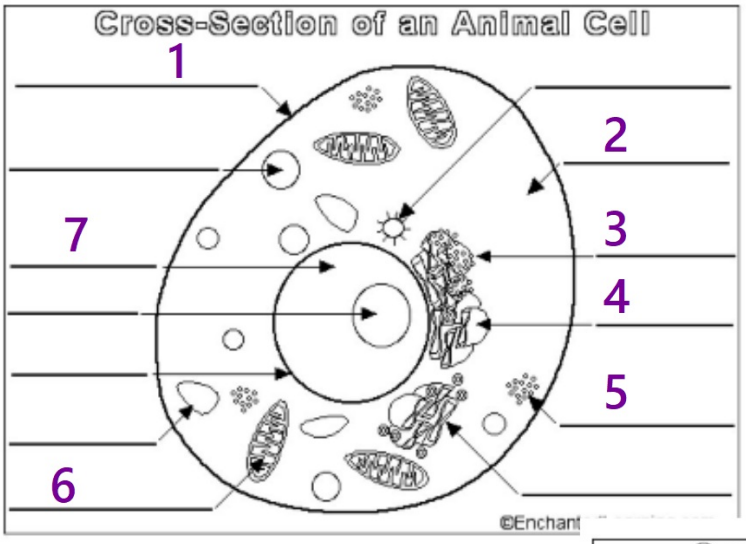
13 questions. Do NOT RUSH. If you take your time you can get 100%

NUCLEAR MEMBRANE (or nuclear envelope) 	Thin covering over the nucleus	Covers and protects the nucleus	Eukaryotic Cells (Plants, Animals, Fungus and Protists)
NUCLEOLUS	Small dark area in the nucleus	Produces ribosome's	Eukaryotic Cells (Plants, Animals, Fungus and Protists)
CHROMATIN	In the nucleus, made of DNA and protein, contains genes	Provides instructions for the cells activities, (growth, reproduction)	All Cells have DNA. DNA that is uncoiled is chromatin.

Organelle / Images	Description	Function	What types of cells?
LYSOSOME	Small, round structures, containing enzymes	Digests older cell parts, food or other objects	Eukaryotic Cells (Plants, Animals, Fungus and Protists)
VESICLE	Small bubble or pouch	Stores materials like water, minerals, food and waste	Eukaryotic Cells (Plants, Animals, Fungus and Protists)
GOLGI APPARATUS	Small bags with tubes connecting them	Packages and secretes proteins for use in and out of the cell	Eukaryotic Cells (Plants, Animals, Fungus and Protists)
ROUGH ENDOPLASMIC RETICULUM	Clear, tubular system of tunnels throughout the cell that contains ribosomes on the outside.	Modifies and transports proteins made by the ribosomes.	Eukaryotic Cells (Plants, Animals, Fungus and Protists)
SMOOTH ENDOPLASMIC RETICULUM	Clear, tubular system of tunnels throughout the cell.	Produces and metabolizes fats and steroids.	Eukaryotic Cells (Plants, Animals, Fungus and Protists)
RIBOSOME	Small specks made of RNA. Found in cytoplasm or on the rough ER	Makes proteins	ALL Cells have Ribosomes

Organelle	Description	Function	What types of cells?
MITOCHONDRIA 	Location in the cytoplasm, bean shaped	Supplies energy or ATP for the cell through cell respiration using glucose and oxygen	Eukaryotic Cells (Plants, Animals, Fungus and Protists)
VACUOLE 	Large open storage area, smaller in animal cells	Storage tank for food, water, wastes or enzymes	Eukaryotic Cells (Plants, Animals, Fungus and Protists) Plants have a large central vacuole
CHLOROPLAST 	Green structures that contain chlorophyll	Captures sunlight and uses it to produce food through photosynthesis	Plants only
CENTRIOLE 	Small cylindrical	Used with the spindle apparatus during mitosis	Animals only

CYTOSKELETON 	Protein filaments and tubes within a cell	Helps cells maintain their shape and internal organization. It also provides mechanical support	All cells have a cytoskeleton
CILIA 	Thin hair like protein projections from a cell	Allow the cell to move itself or other materials. Sensory structure.	Some animal, fungus, protist and bacterial cells.
FLAGELLA	Same as cilia. (moves like a whip)	Allow movement.	Some animal, protist and bacterial cells.


Cross-Section of an Animal Cell
1
2
3
4
5
6
7
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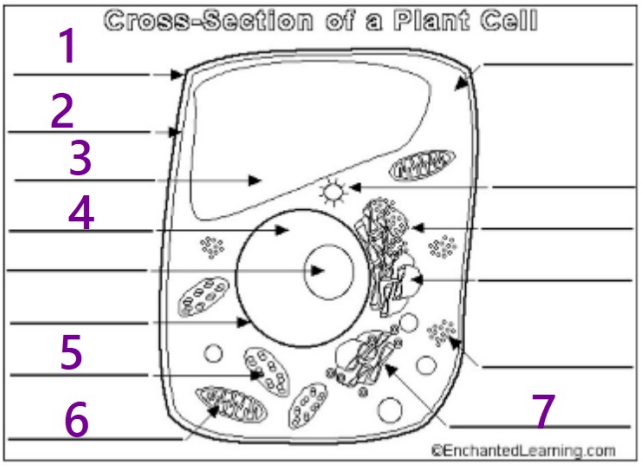
Cross-Section of a Plant Cell
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