Unit 1: Reproduction

Parts and Function of the Cell

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The Cell

What is the Cell?

- Cells are the building blocks of life. All living things are made from cells
- Every part of a human body is made of cells – over 100 trillion
- Microscopic – can't be seen without a microscope

What is the Cell

- Scientists have determined that even though there is no one, common cell, all plant and animal cells have many common factors.

- There are **unicellular organisms** (one celled organisms) and others that are **multicellular** (many celled organism).

Cell Theory

The cell theory states:

1. All living things are composed of cells

2. Cells are the basic units of structure and function in living things

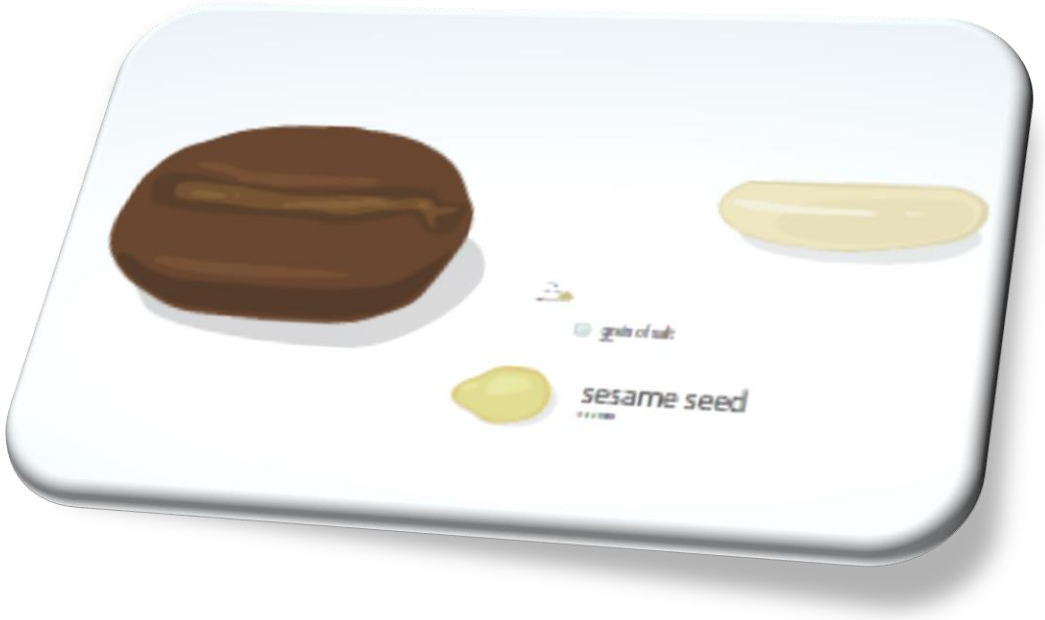
3. New cells are produced from existing cells

History of the Cell

Warm Up!

- List at least 2 of the 3 parts of the cell theory.
- Bonus: List all three

How Big?



Inside the Cell

Cells are the basic unit of structure and function in all living things.

If you look inside cells, there are even smaller structures called organelles.

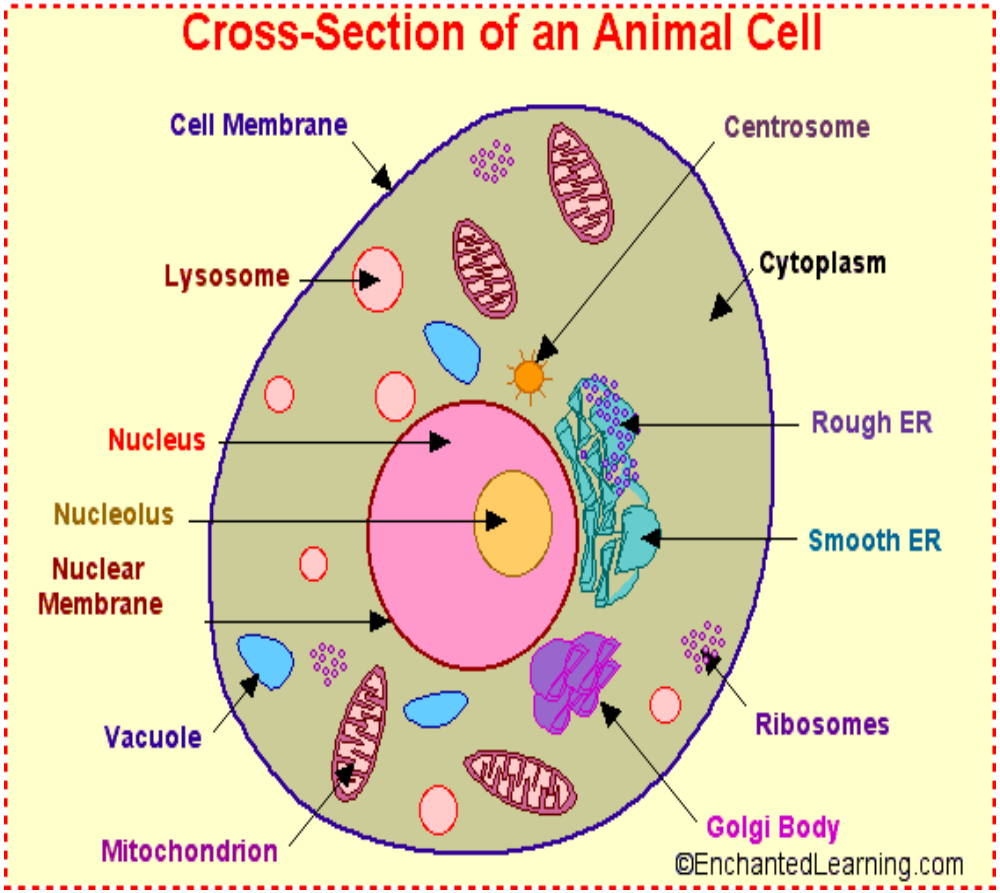
Organelles are specialized structures within the cell with a specific function.

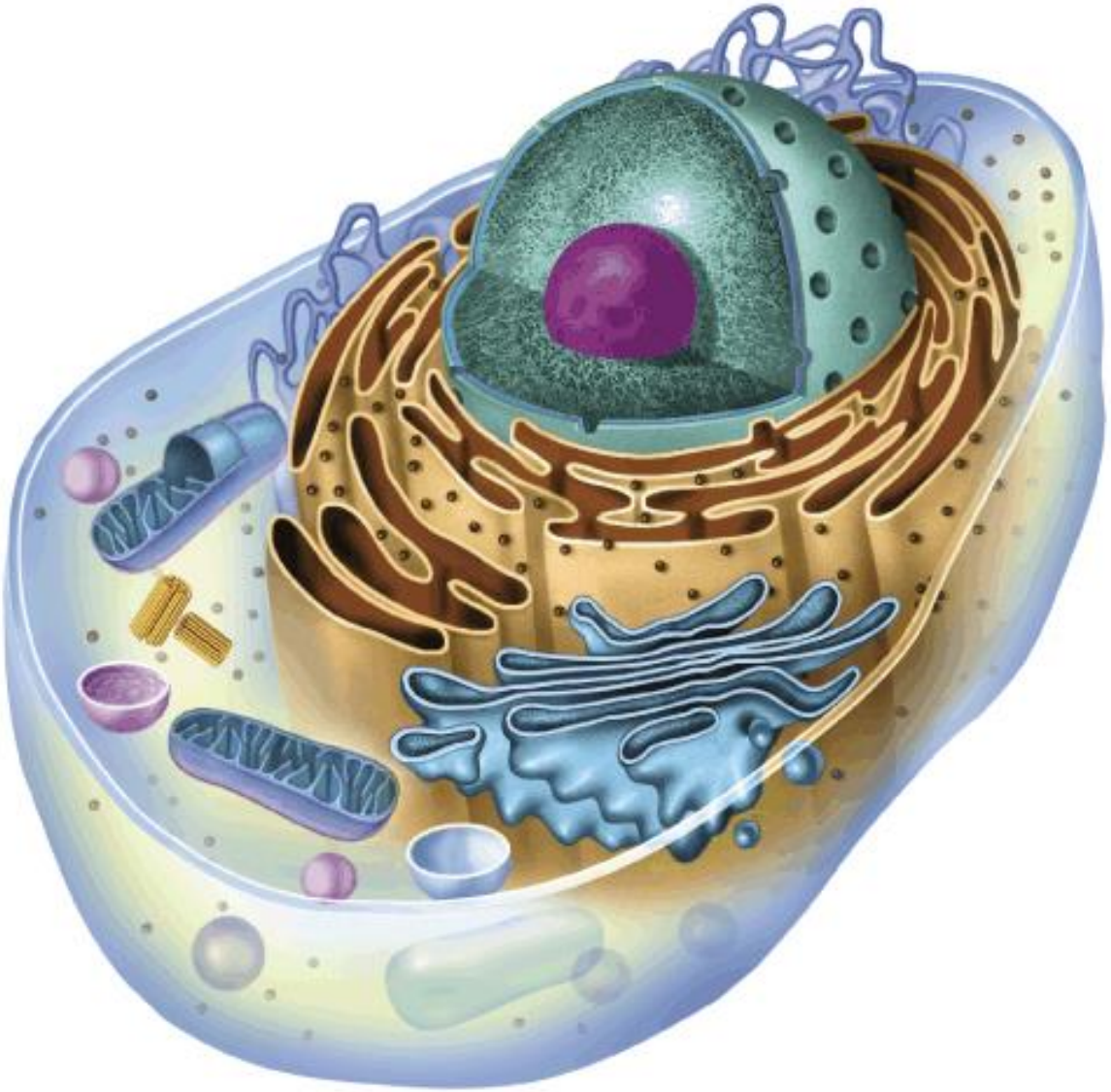
Animal Cell

Pg 142

1.Label and colour diagram

2.Write definitions for organelles on back



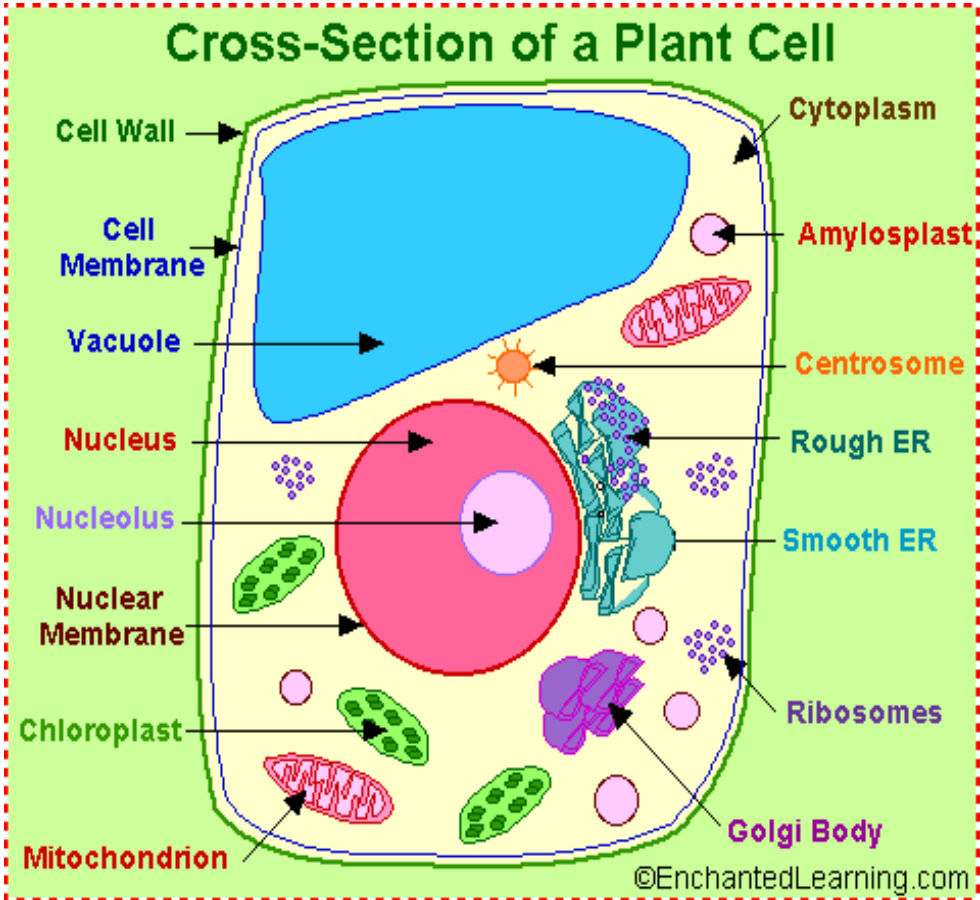


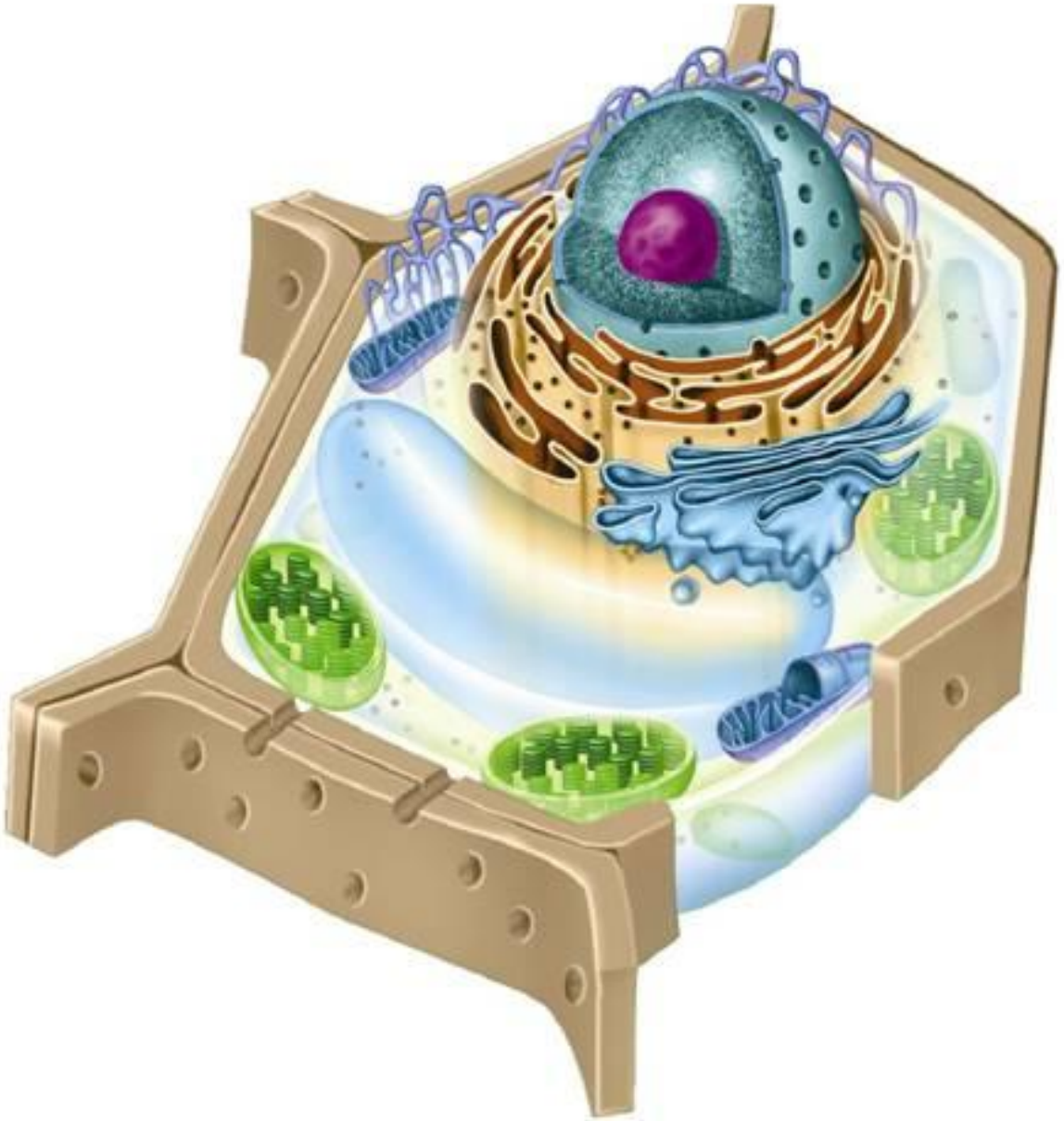
Plant Cell

Pg 142

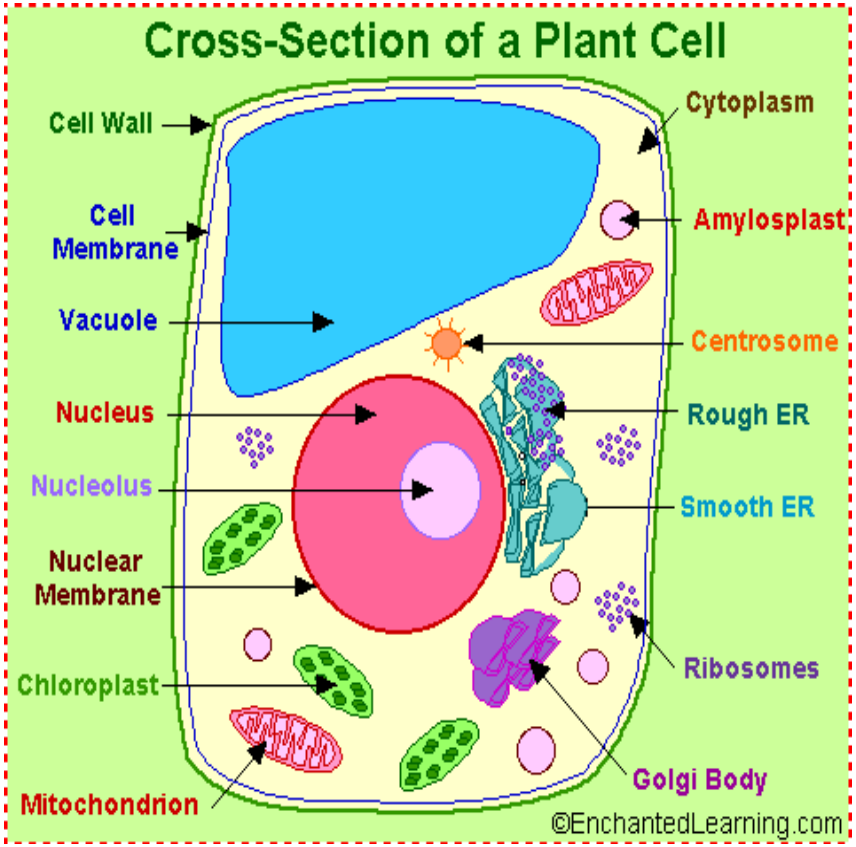
1.Label and colour diagram

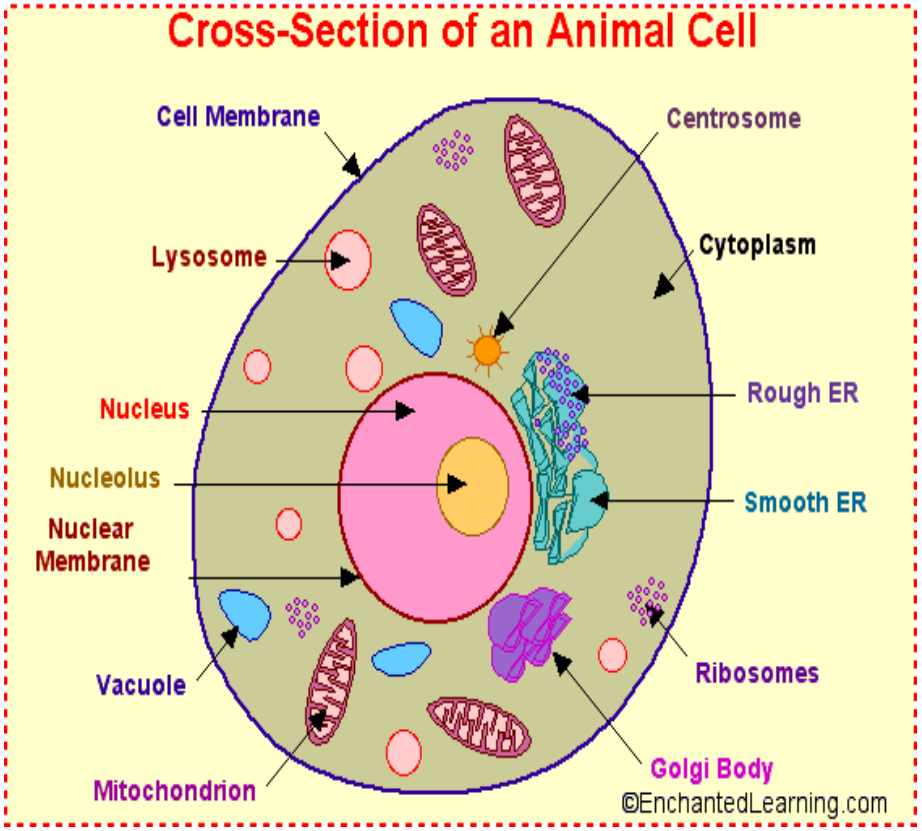
2.Write definitions for organelles on back





Similar?

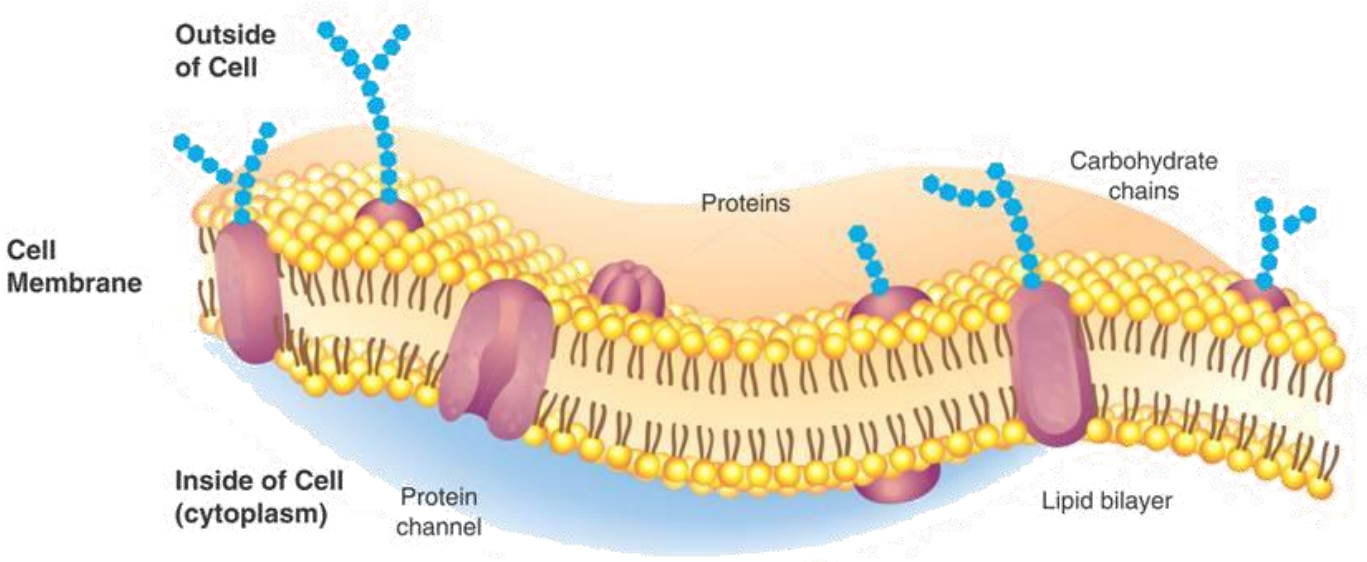




Make a list of the common features.

Common Features

- Cell Membrane:
  - Thin flexible membrane that covers the entire cell.
  - Made up of proteins and lipids

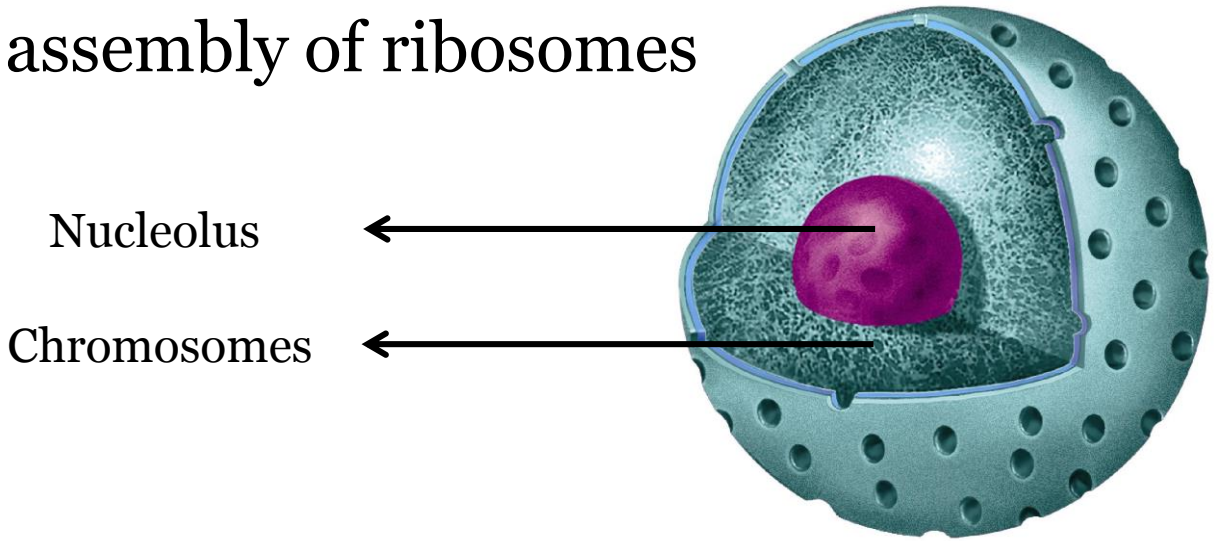


Cell Membrane

- 3 Important Functions
  - Protects the inside of the cell
  - Provides cell's shape and support
  - Controls movement into/out of the cell

Common Features

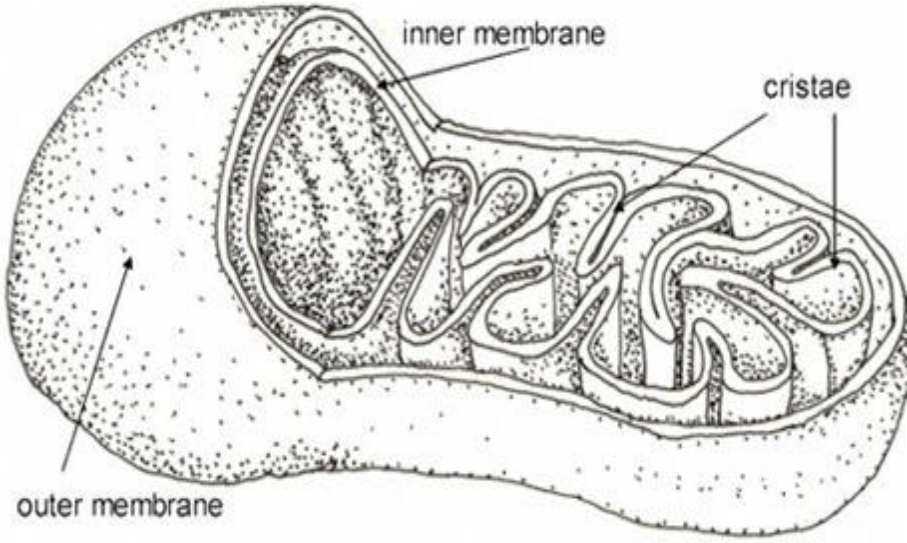
- Nucleus:
  - acts as a control center; directs all of the cell's activities.
- Chromosomes
  - Threadlike structures containing genetic information.
- Nucleolus
  - Involved in the assembly of ribosomes



Common Features

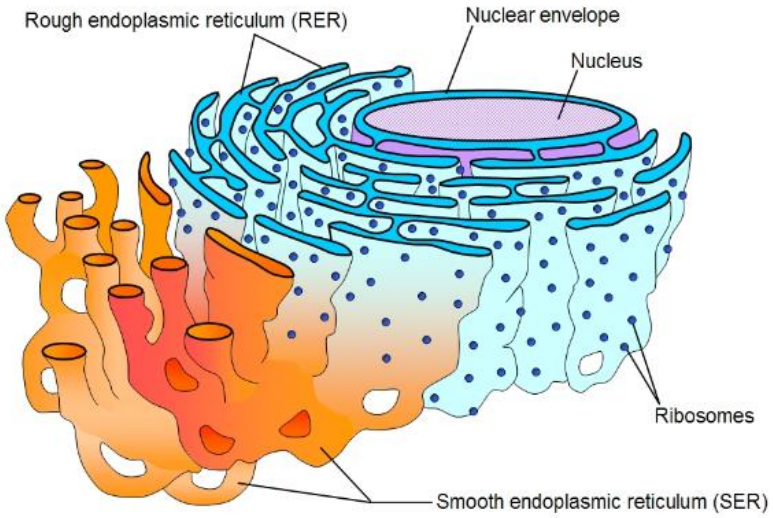
- Cytoplasm:
  - Material inside of cell membrane, surrounds all organelles.

- Mitochondrion:
  - Provides the cell with energy
  - Powerhouse of the cell
  - Glucose to energy (ATP)



Common Features

- Ribosome
  - builds proteins and essential for cell growth and reproduction.
- Endoplasmic reticulum:
  - a series of canals/tubes that carry materials throughout the cell.
  - Smooth ER/Rough ER(ribosomes attached)



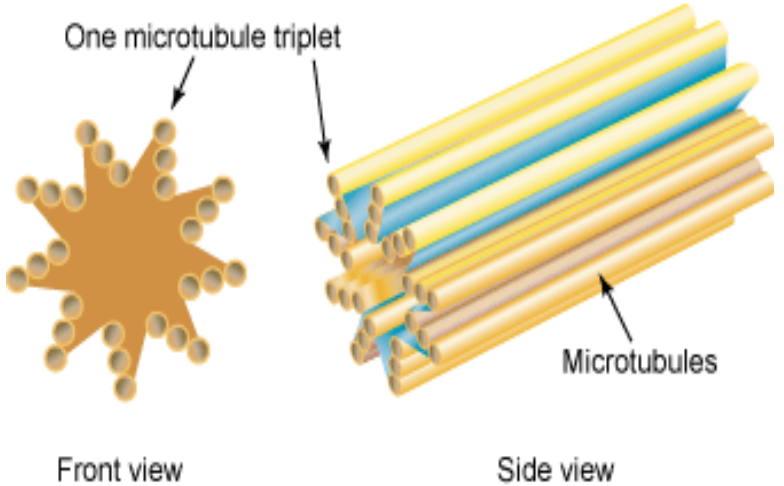
Common Features

- Golgi apparatus:
  - Sorts and stores proteins from the ER.

- Vacuole:
  - Large fluid-filled space containing water, sugar, minerals and proteins.(much larger in plant)

Unique Animal Features

- Lysosome:
  - contains enzymes that can break down material in the cell.
- Centriole:
  - small structure important to cell division (found only in animal cells).



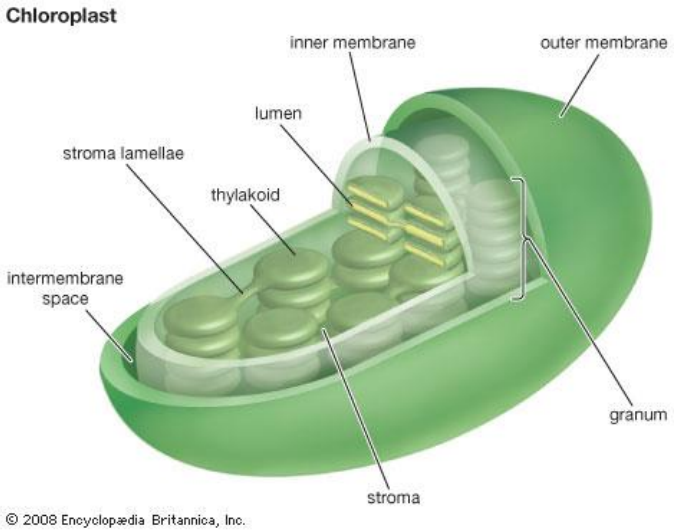
Centriole

- Every animal-like cell has two small organelles called centrioles. They are there to help the cell when it comes time to divide. They are put to work in both the process of mitosis and the process of meiosis. You will usually find them near the nucleus but they cannot be seen when the cell is not dividing. And what are centrioles made of? Microtubules.

Unique Plant Features

- Cell wall:
  - made up of cellulose it protects and supports the cell (helps it keep its shape)

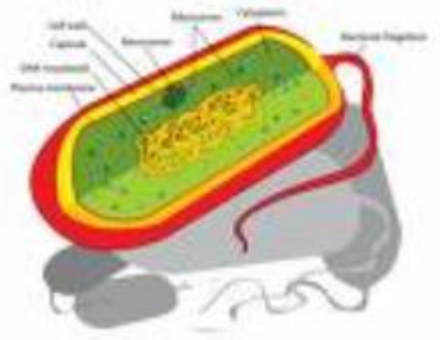
- Chloroplast:
  - contains chlorophyll (green pigment) used in photosynthesis



How cells move

Cells have components outside of the cell membrane that help the cell move around. Two techniques are:

1) Flagellum is a whip like tail that helps the cell move



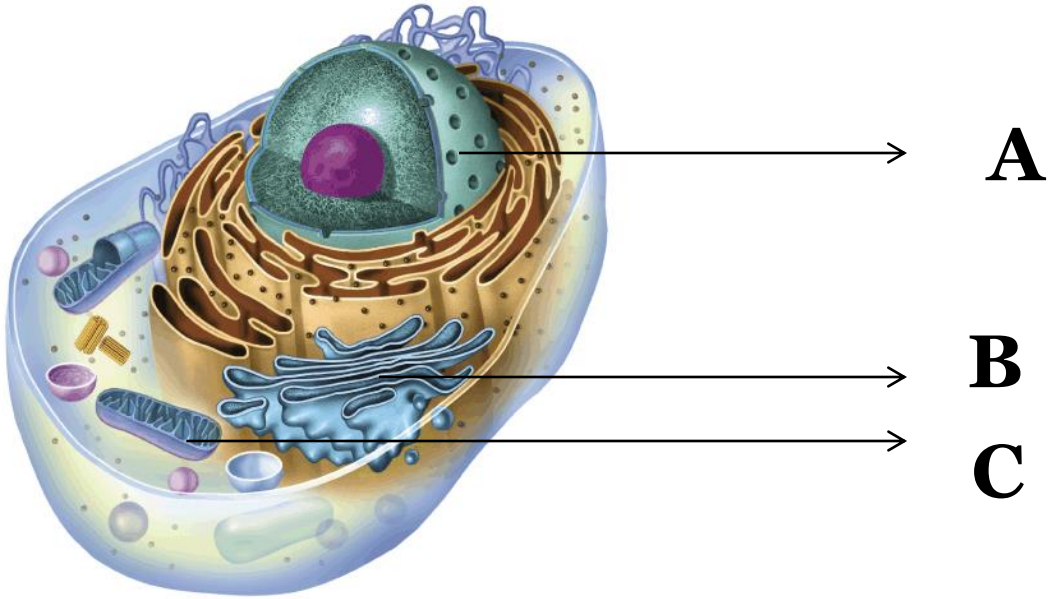
2) Cilia are hair like structures that move that cell or the cells surroundings

Bonus Cell Project Due Monday

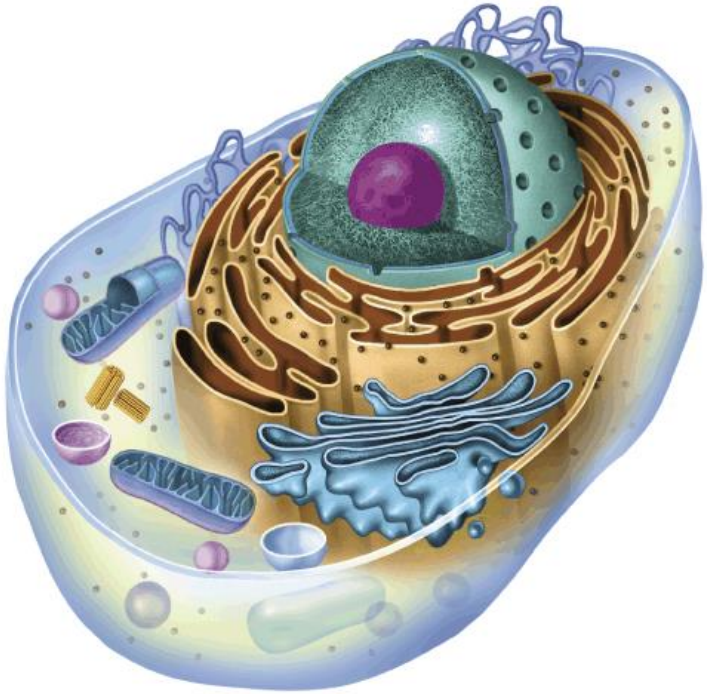
Cell City

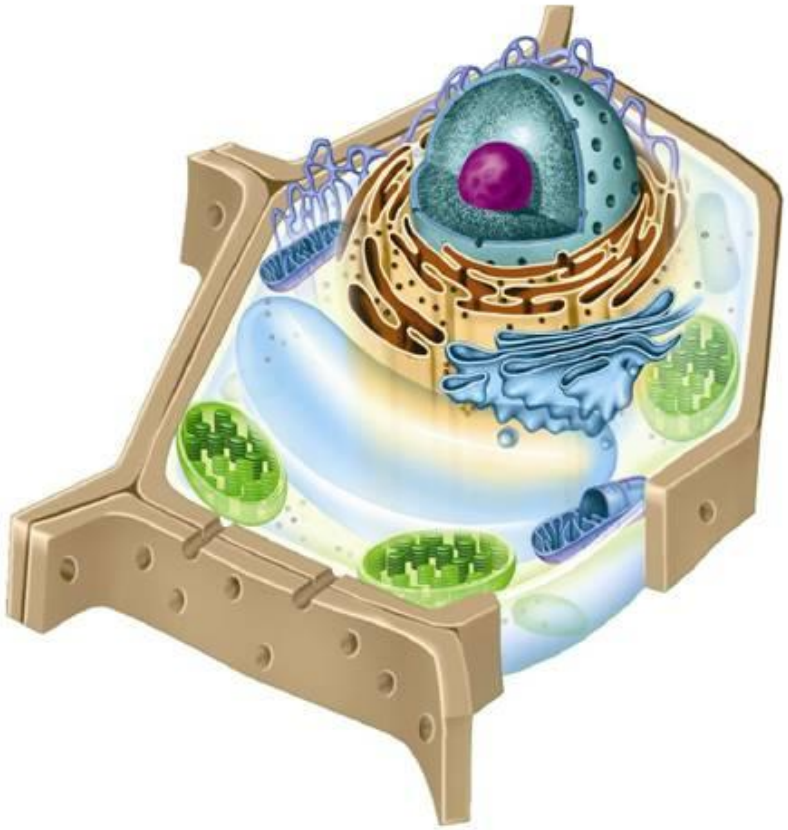
Warm-Up!

- Label the following parts on the below animal cell



Quiz Wednesday-Review



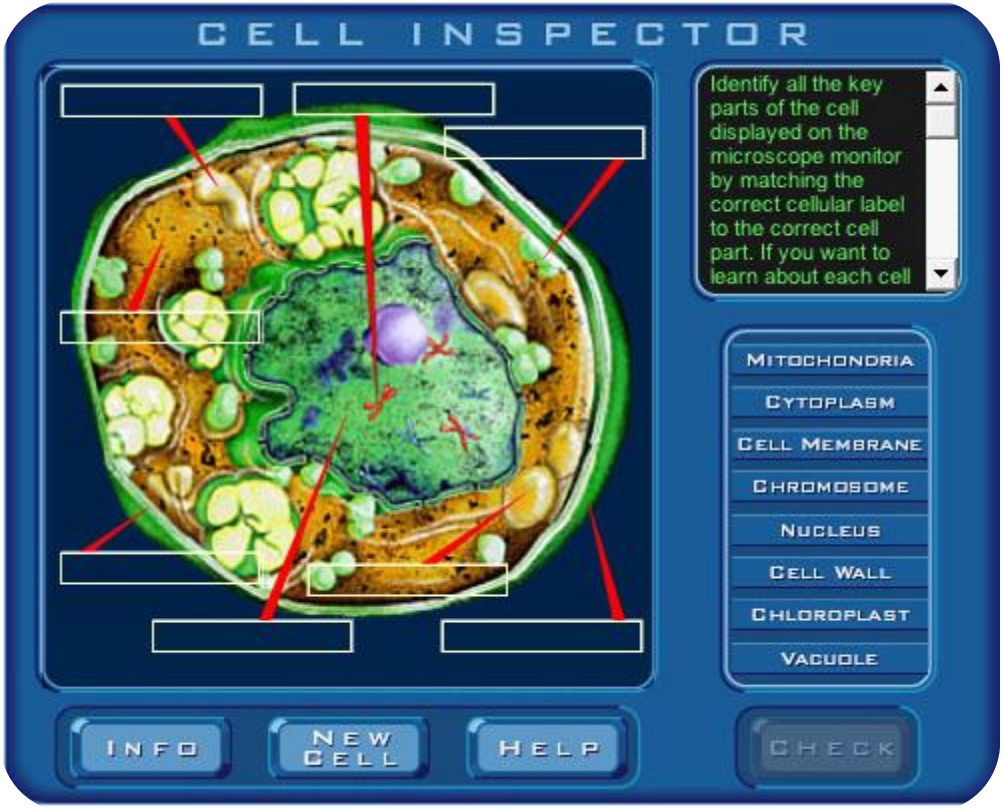


Cell Stations

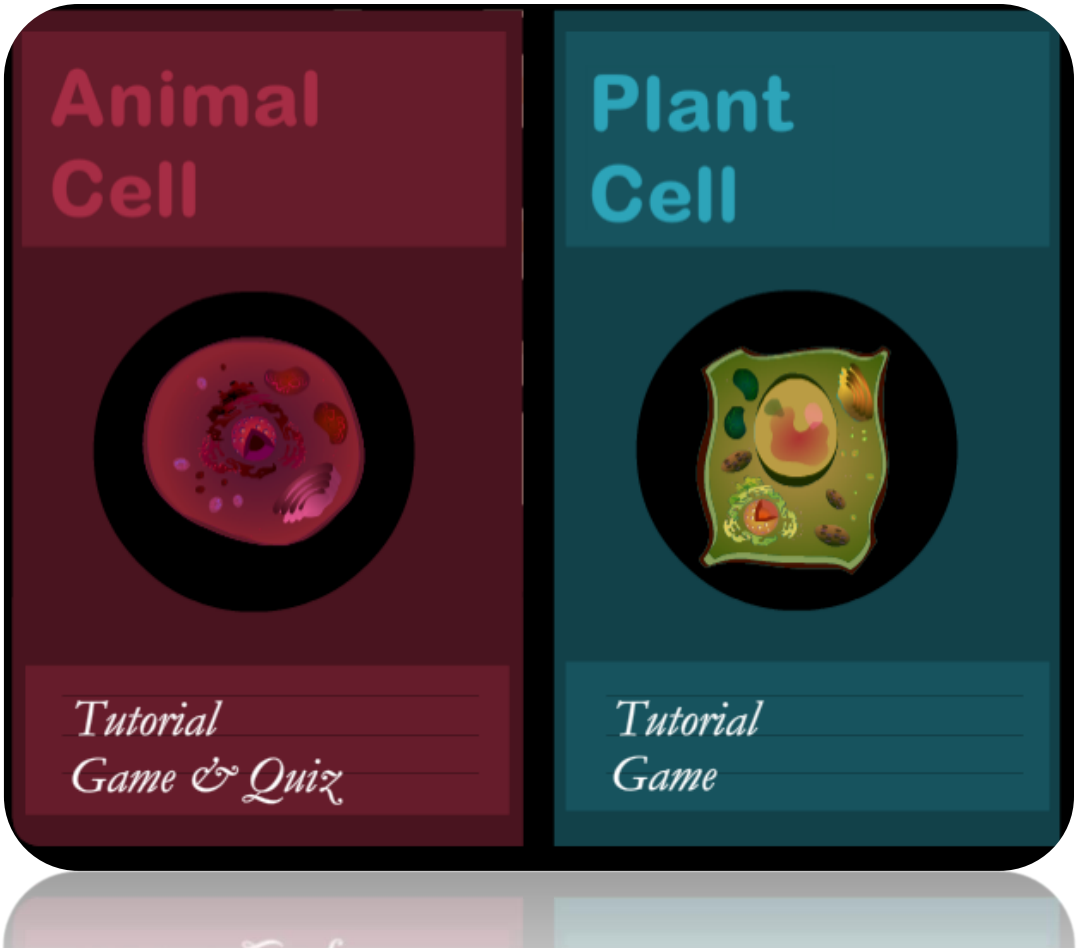
1. Parts of the plant and animal cell study guide
2. Animal and Plant cell matching activity & Cell Crossword
3. Definition review sheet

20 minutes at each station.

Practice


CELL INSPECTOR
Identify all the key parts of the cell displayed on the microscope monitor by matching the correct cellular label to the correct cell part. If you want to learn about each cell
MITOCHONDRIA
CYTOPLASM
CELL MEMBRANE
CHROMOSOME
NUCLEUS
CELL WALL
CHLOROPLAST
VACUOLE
INFO
NEW CELL
HELP
CHECK

CYU

Take Screen Shot of:

1. Complete AC Game
2. Complete AC Quiz
3. Complete PC Game