Plants and Animal Cells

What are in both?

Lysosomes!

- **FUNCTION**: They are responsible for the breakdown of unwanted structures such as old organelles or even whole cells. And on white blood cells lysosomes digest bacteria.
- **STRUCTURE SIZE:** They are commonly 0.1 - 0,5 µm in diameter.

Endoplasmic Reticulum!

Rough endoplasmic Reticulum:
FUNCTION: Provides a large surface area for the synthesis of protein, provides a pathway for the transportation of materials, especially proteins throughout the cell
Smooth endoplasmic Reticulum:
FUNCTION: Synthesis. stores, and transports lipids, including steroids such as cholesterol and synthesis glycogen in some cells like liver cells.
Both SER and RER form transport vesicles, small membrane-bound sacs that transport synthesized materials to other destinations in the cell.

STRUCTURE SIZE:

They are commonly

Ribosomes!

FUNCTION: Ribosomes are the sites of protein synthesis.

STRUCTURE SIZE: about 25 nm in diameter.

Golgi body!

FUNCTION: The Golgi body acts like the cell's post office, receiving, sorting, processing and delivering proteins and lipids.

STRUCTURE SIZE: **N/A**

Nucleus!

FUNCTION: The Nucleus act as the control center of the cell, controlling cell activities through the production of mRNA and tRNA and protein synthesis. The Nucleus also protects the DNA from the rest of the cell and it also manufactutes rRNA and ribosomes.

STRUCTURE SIZE: 40 - 100nm in diameter

Mitochondria

FUNCTION: acts as the sites for the krebs cycle and oxidation phosphorylation stages for respiration. Responsible for the ATP molecules form carbohydrates.

SIZE STRUCTURE: rod shape, 0.5 - 1.0 μm

Cell Membrane

FUNCTION: All plants and animals are surrounded by it, it moves substances in and out of cells.

SIZE STRUCTURE: 7nm

Vacuoles

FUNCTION: Both plants and animal cells have vacuoles. But the plants vacuole is larger than animal vacuoles. Vacuoles help to regulate the osomotic properties of cells, and other wide range of other functions. Stores water, ions, sugars, and pigments (In plants).

SIZE STRUCTURE: N/A

Only Plants Cell

Chloroplasts

FUNCTION: The make light energy from the sun into sugars used by cells.

SIZE STRUCTURE: 3-10 µm

Cell Walls

FUNCTION: It gives the cell the shape and it prevents the cell from bursting when water enter by osmosis.

SIZE STRUCTURE: The size depends on the cell.

Only in Animals

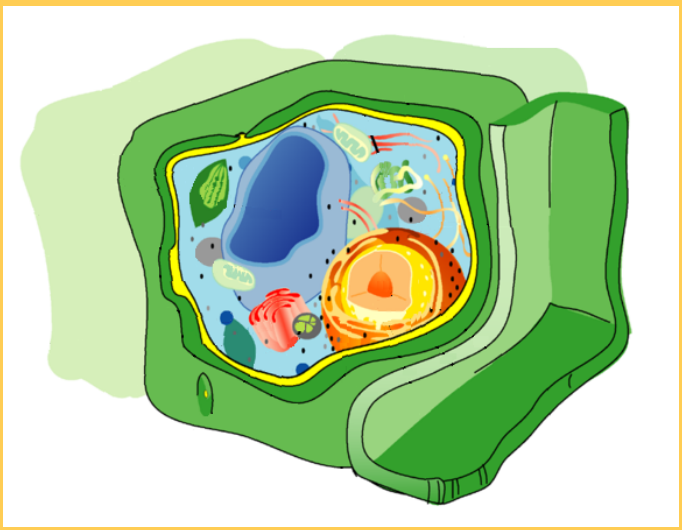
Centrioles

FUNCTION: N/A

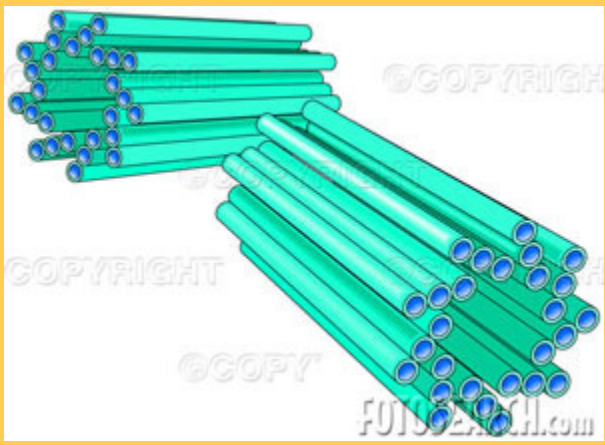
SIZE STRUCTURE: 500 nm long

TIME FOR PICTURES!

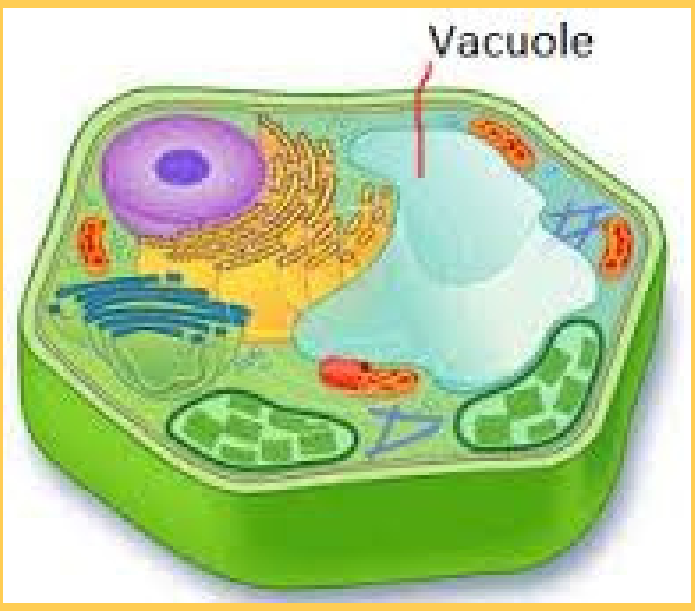
CELL WALL



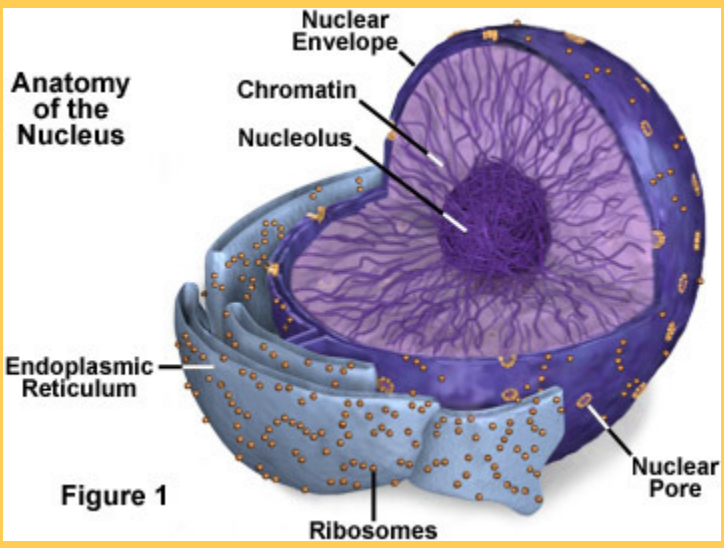
Centrioles



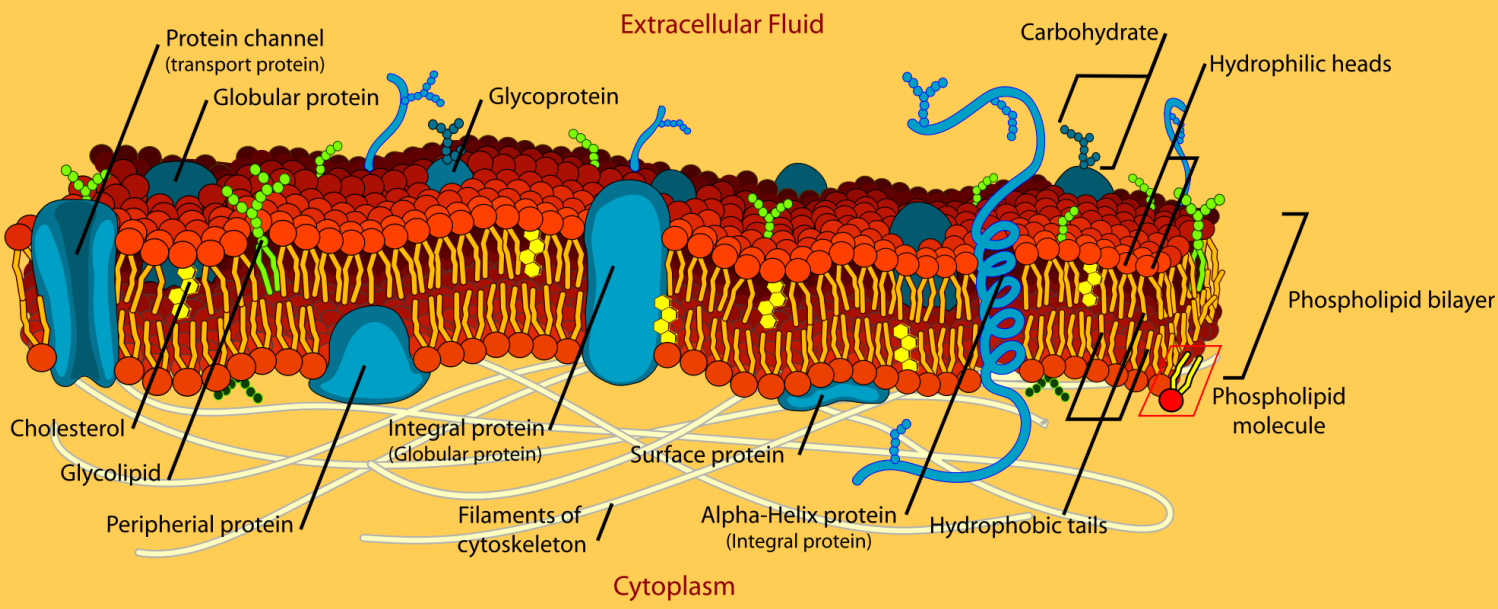
Vacuoles



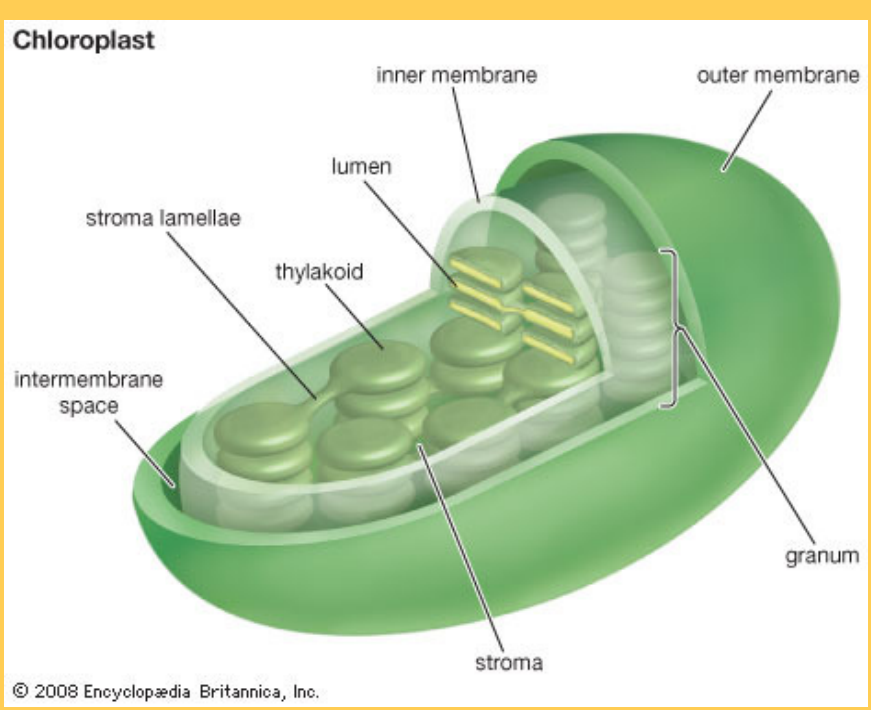
Nucleus



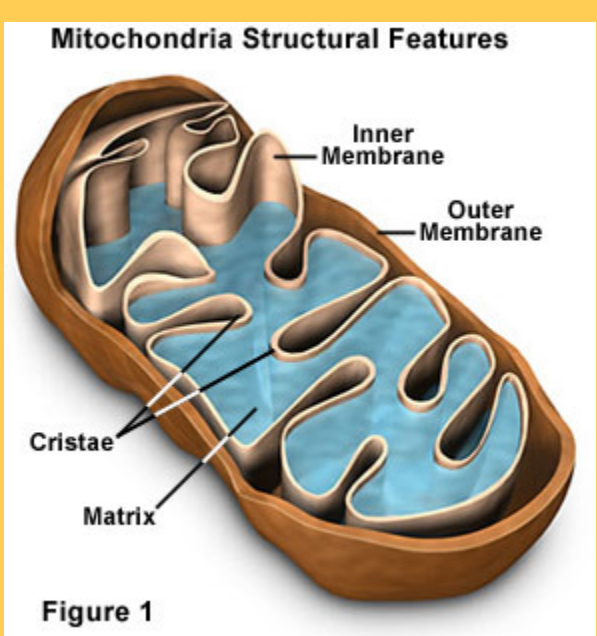
Cell membrane



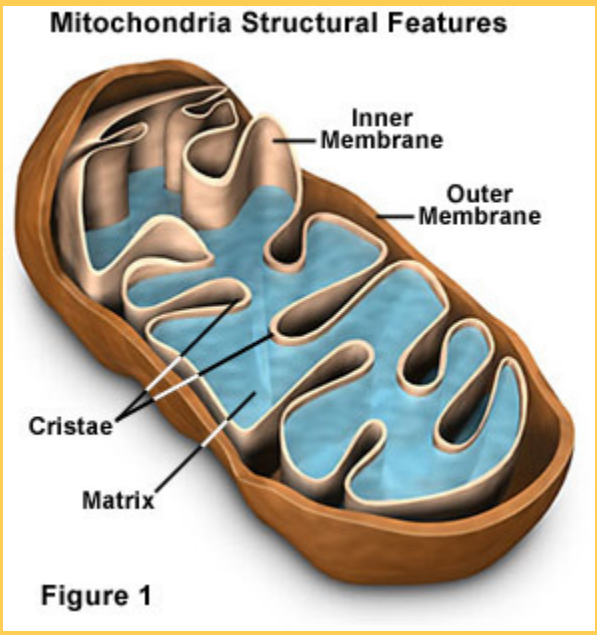
Chloropasts



Mitochondria

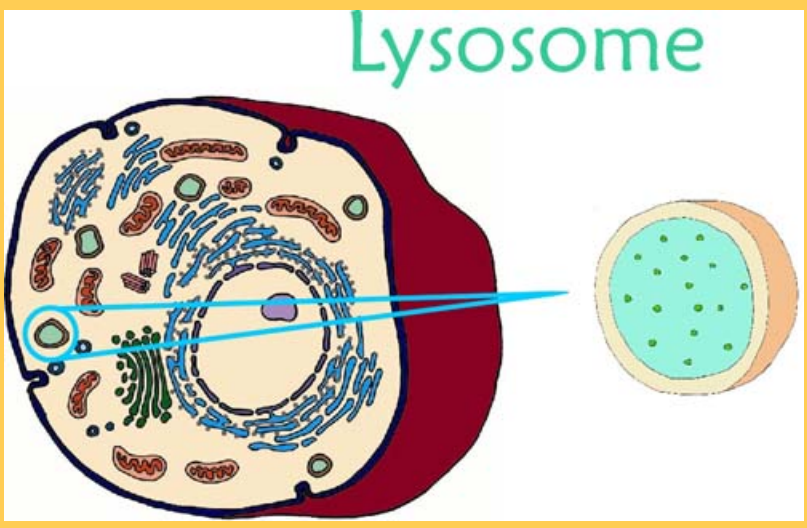


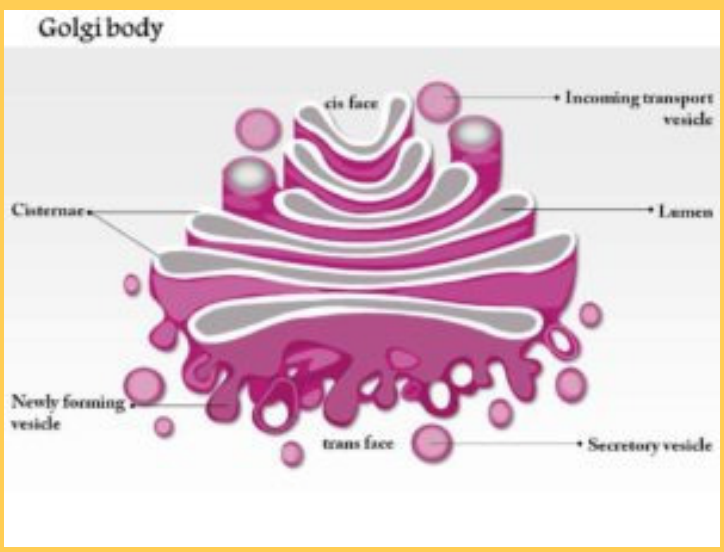
Endoplasmic Reticulum



Ribosomes

Golgi Body





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