

Cell Structure Project

1.6

Nucleus controls activities in animal and plant cells and varies in size from cell to cell.

chloroplasts convert light energy in plant cells and are flat discs 3-10 μm in diameter and 1 μm thick

mitochondria acts as sites for respiration in plant and animal cells and is rod shaped 1-7 μm in length and .5-1 μm in diameter.

1.7

Endoplasmic Reticulum consist of Smooth ER: Makes Lipids, and steroids like cholesterol, testosterone, oestrogen

Rough ER: Site of protein synthesis, large surface area, pathway for transport of molecules, both ER's are large in size

Ribosomes: Site of protein synthesis, it's in both animal and plant cells, size of 80s: 22nm 70s: 17 nm

Golgi Body: Collects, processes, and sorts molecules

(particularly proteins from rough ER) ready for transport in Golgi vesicles either to other parts of the cell or out. Golgi vesicles are used to make lysosomes, it's in both animal and plant cells, size varies from 20 - 200 nm

Lysosomes: Responsible for breakdown (digestion) of unwanted structures such as old organelles or even whole cells, digest bacteria in WBC'S, it's in both animal and plant cells, varies from 0.1 - 0.5 μm

1.8

The cell membrane controls exchange between cell and environment. It is in plants and animals and is 7nm thin.

The vacuole is found in plants and animals, varies in size depending on what organisms its found in, and it regulates the flow of water.

The cell wall is found in plants, ranges from 10 to 100nm, and it prevents the cell from bursting when water enters.

The centrioles are mostly found in animal cells. It is a hollow cylinder about 500nm long and the function remains mysterious. The microtubules are 25nm in diameter, found in plants, and helps with mechanical support.

Mitochondria Structural Features

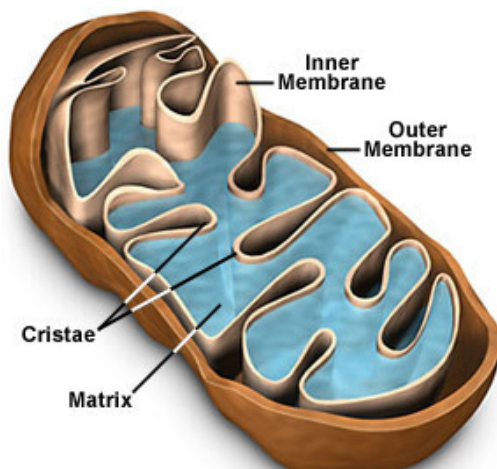


Figure 1

Plant Cell Chloroplast Structure

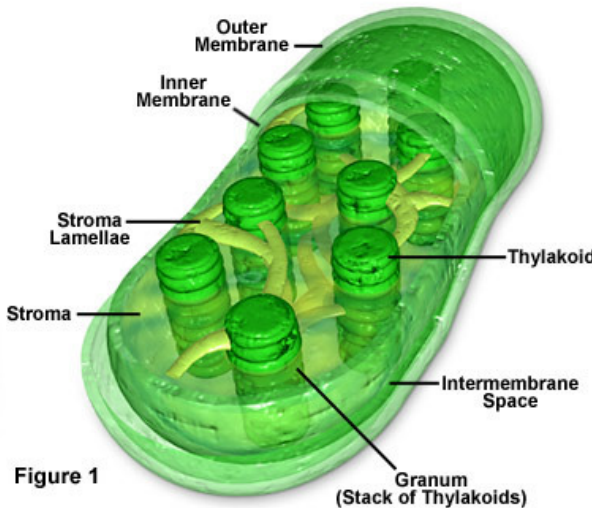
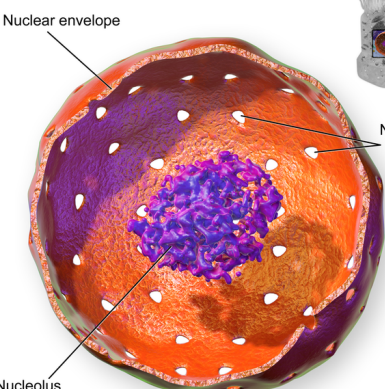
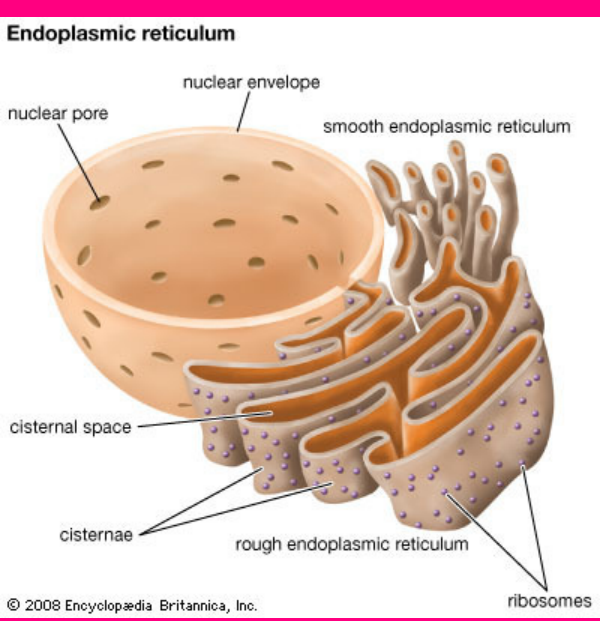


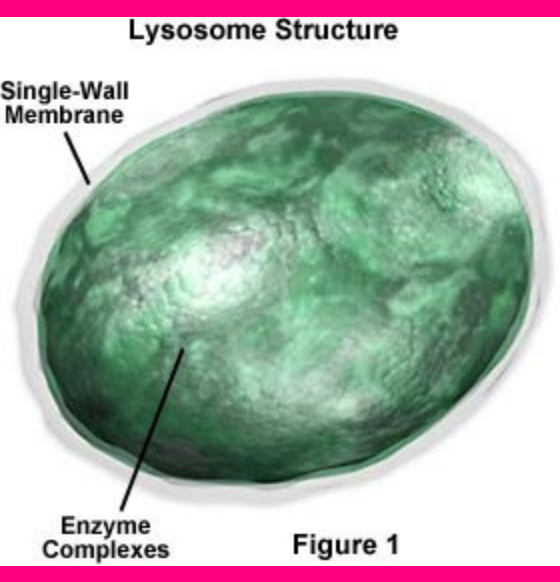
Figure 1



Nucleus

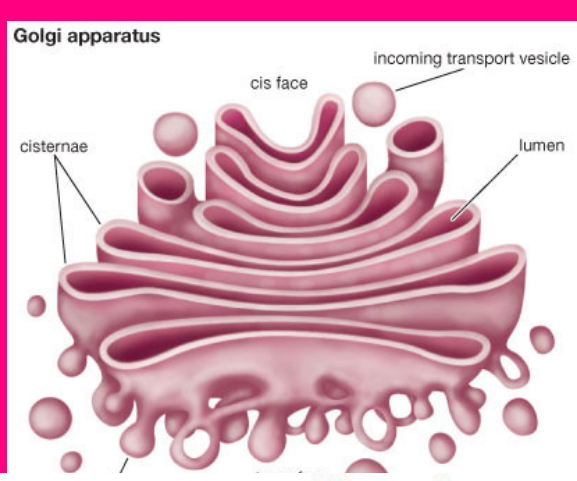


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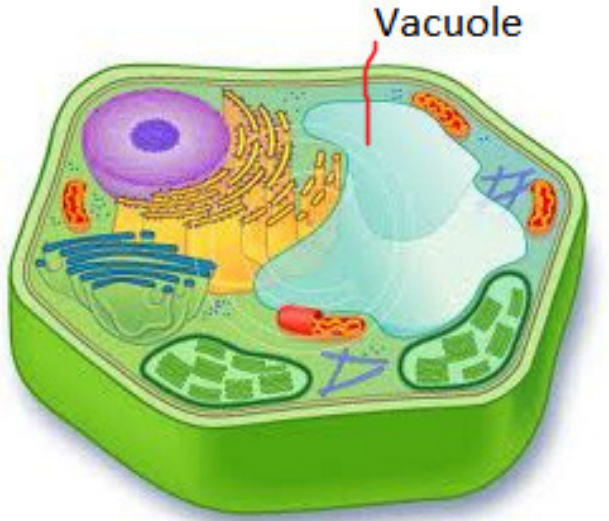
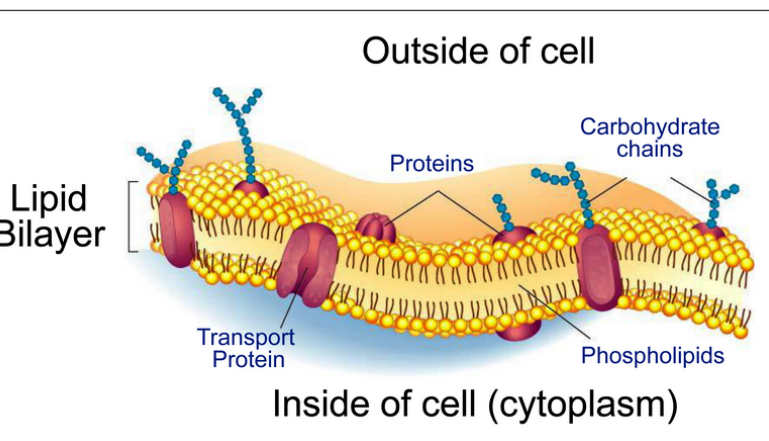
Lysosome Structure

Figure 1



Golgi apparatus

Structure of the Cell Membrane



Centriole Structure

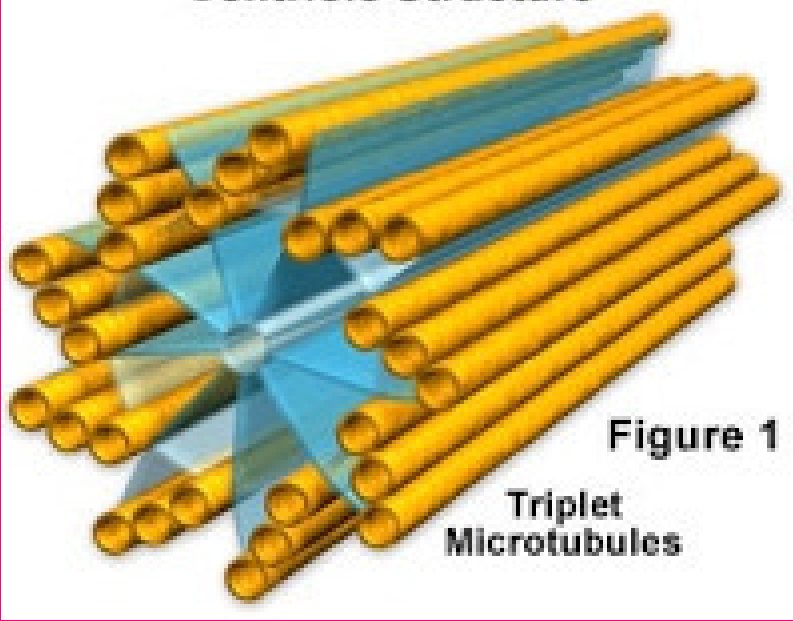


Figure 1

Triplet Microtubules