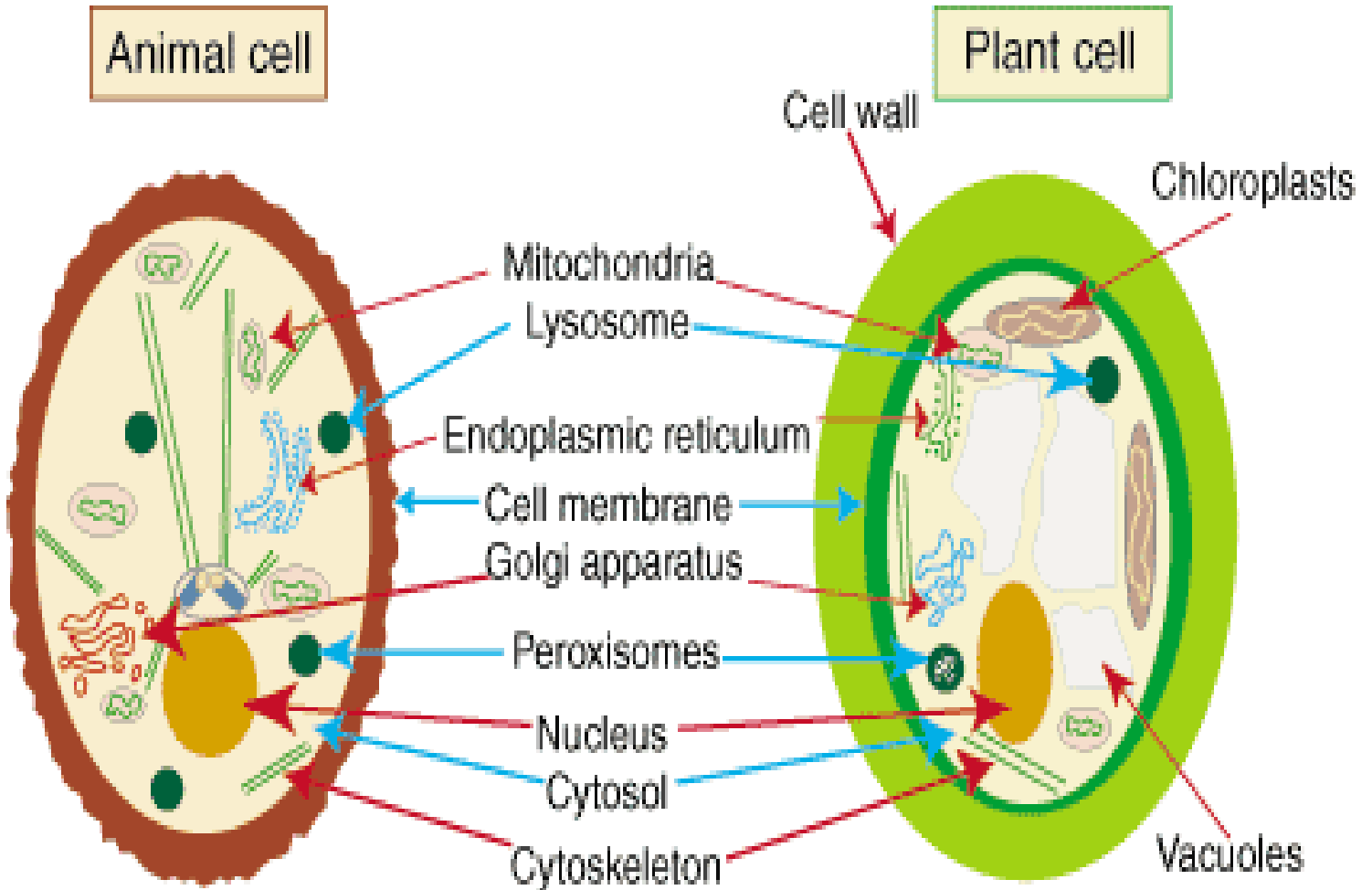


## PLANT CELL Vs ANIMAL CELL

Plants and animals made up of millions of cells, and these cells have many similarities and differences. Since **both are eukaryotic cells**, that means they have a true nucleus, which is enclosed and separated with other organelles by a nuclear membrane, and it is a very crucial factor which defines their mode of multiplication. They have **similar reproduction processes of mitosis and meiosis**, using their DNA which is present in the cell nucleus.



CHARACTERISTICS	ANIMAL CELL	PLANT CELL
<b>Definition</b>	Animal cells are defined as a functional unit of life for animals having all cell organelles, which has a variety of functions to support the animals' metabolisms.	It is a basic functional unit of plants having all cell organelles performing a variety of functions which support the plants' metabolisms.
<b>Shape and size</b>	They are generally smaller than plant cells ranging from <b>(10-30um)</b> in length.  Animal cells shape and sizes vary significantly from irregular shapes to round shapes, most defined by the function they perform.	Here, the cell size ranging from <b>10um-100um</b> in length. Mostly rectangular or cube-shaped.
<b>Cell wall</b>	Lacks a cell wall but have a plasma membrane, which performs the function of support and protection of the cell from external damage.  It also plays a significant role in selective permeability, allowing in and outflow of nutrient molecules, water, and other cell elements.	They have both a cell wall made by a cell membrane and cellulose. Here, a cell wall is a rigid membrane matrix present on the surface of all plant cells whose function is to protect the cell and its content.
<b>Plasma Membrane</b>	thin, flexible membrane present which acts as a protective covering for the animal cell.  Selective permeable.	Plasma membrane made up of cellulose, present just below the cell wall; it allows selective permeability of cell contents in and out of the cell cytoplasm.
<b>Ribosomes</b>	present, and used for protein synthesis and genetic coding of the protein, amino acid sequences.	Present, and used for protein synthesis and cellular repair mechanisms.
<b>Endoplasmic reticulum</b>	Present: SER, RER	Same as animal cell
<b>Lysosomes</b>	Lysosomes- it contains digestive enzymes which break down the cellular macromolecules.	Rarely lysosomes present, Golgi bodies handle molecule degradation of cellular waste products.
<b>Vacuoles</b>	very small vacuoles than the plant cell.	Large central vacuole, occupy up to 90% of the cell's volume.
<b>Nucleus</b>	Present and lies at the centre of the cell.	Present and lies on the side of the cell.



<b>Centrioles</b>	Present and its function involve the assistance of the cell division process.	Absent in plant cells
<b>Cytoskeletons</b>	Present and functions are to create a network that organizes the cell components and maintains the cell shape.	Here cytoskeleton maintains the plant cell shape, supports the cell cytoplasm and maintains the cell's structural organization.
<b>Plastids</b>	Absent in animals.	Present in plants, and it gives pigmentation to the plants and facilitates the trapping of light energy used for photosynthesis.
<b>Plasmodesmata</b>	Absent in animals.	Present in plants and they facilitate the communication and transport of materials across plant cells.
<b>Golgi bodies</b>	Larger and fewer Golgi bodies. The function is to process and package protein and lipid macromolecules as they are being synthesized.	Smaller but more Golgi bodies. The function is modification, processing, sorting and packaging proteins for cellular secretion.

