

Organisms & Cells

Cell Theory

- 1) All living things are made of cells.
- 2) Cells function in all living things.
- 3) All cells come from pre-existing cells.

Cell: Can function on its own and its organelles carry out metabolic activities.

Types of Cells

Prokaryotic (only single-celled organisms)

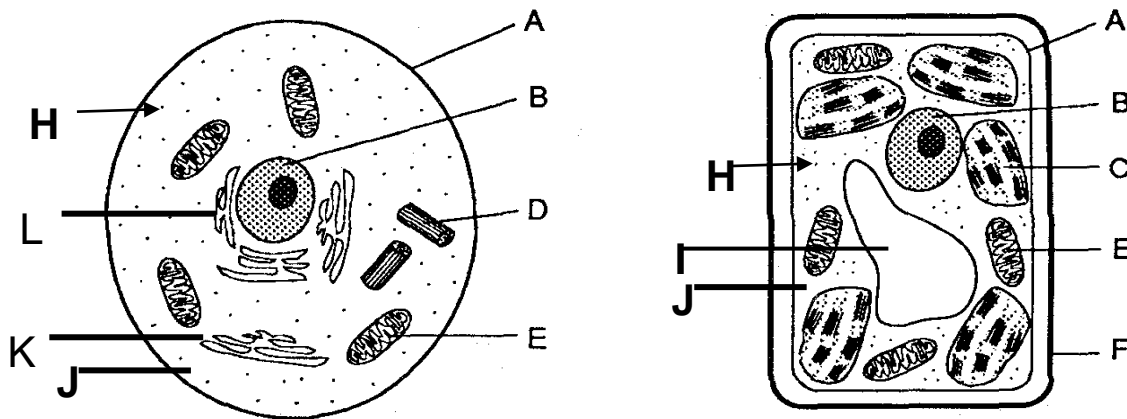
- no membrane bound organelles
- No nucleus

Eukaryotic Cells (single & multicellular)

- Membrane bound organelles

Organelles: Structures inside cells that carry out a specific metabolic activity to maintain homeostasis.

I will give you the pictures tomorrow



(A) **Cell membrane**/plasma membrane: Regulates the movement of material into & out of the cell/Selectively permeable. Also, aids in communication due to receptors on/in its surface.

(B) **Nucleus:** Contains genes in DNA for protein synthesis & hereditary information for new cells.

(C) **Chloroplast:** Makes nutrients for the plant by the process of photosynthesis.

(D) **Centrioles:** Aid in the separation of chromosomes during cell division

(E) **Mitochondria:** Makes ATP, an energy molecule, for the nucleus, ribosome and active transport.

(F) **Cell wall:** Provides support & protection for plant cells

(H) **Ribosome:** Small structures around the cell where protein synthesis takes place

(I) **Vacuole:** (animal & plant) storage & digestion

(J) **Cytoplasm:** Liquid (plasma) that holds organelles & allows for movement of substances around the cell.

(L) **Endoplasmic Reticulum:** (plant & animal) a network of tubes that transport proteins

(not shown) **Golgi Apparatus:** (plant & animal) flattened sacs that package and ship proteins

(not shown) **Lysosome:** (Eukaryotes) contain digestive enzymes to digest food and worn out organelles