

- A cell is the smallest organizational unit of life. It contains

Cell membrane: it is the membrane that surrounds a cell. It has two major roles:

1. It separates the cell from the outer environment.
2. It controls what goes in and out of the cell through diffusion (the movement of materials from higher concentrations to lower concentrations).

Cytoplasm: the jelly-type of fluid that is between the cell membrane and the nucleus. It contains the cell organelles as well as other life-supporting materials such as glucose.

Mitochondria: it is the power supply of the cell. It provides energy for the cell to function through a process called cellular respiration which uses oxygen and glucose to produce carbon dioxide, energy, and water.

Ribosomes: they help produce proteins that make up most of the cell's structure.

Endoplasmic reticulum: a network of channels that act like high ways, or transporting agents to transport materials in the cell such as food.

Vesicles: sacs that transport or store materials inside or outside the cell.

Golgi body: it sorts and packages proteins for transport outside or inside the cell through the vesicles.

Nucleus: controls the cell's activities through a set of instructions stored in the DNA which is inside the nucleus.

Cytoskeleton: filaments that provide structure for the cell.

- Plant cells contain all of the organelles mentioned above as well as two more:

Cell wall: a wall that is right outside the cell membrane. Its role is to provide a rigid structure for plant cells

Chloroplasts: green pigments that trap the energy from the sunlight to undergo photosynthesis.