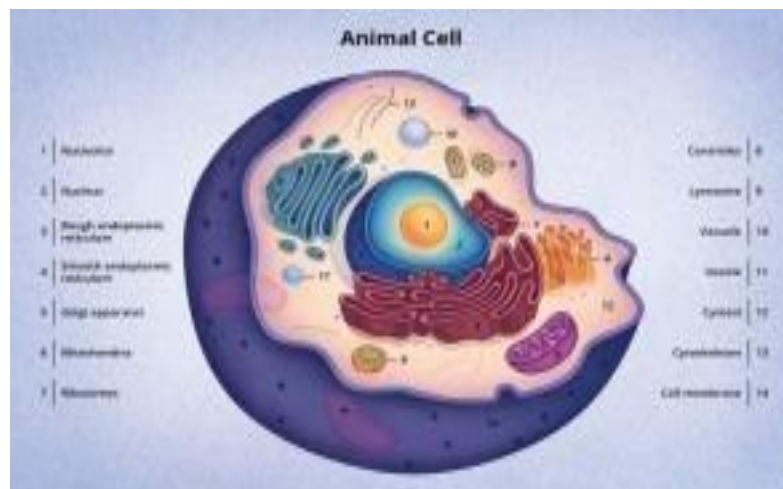
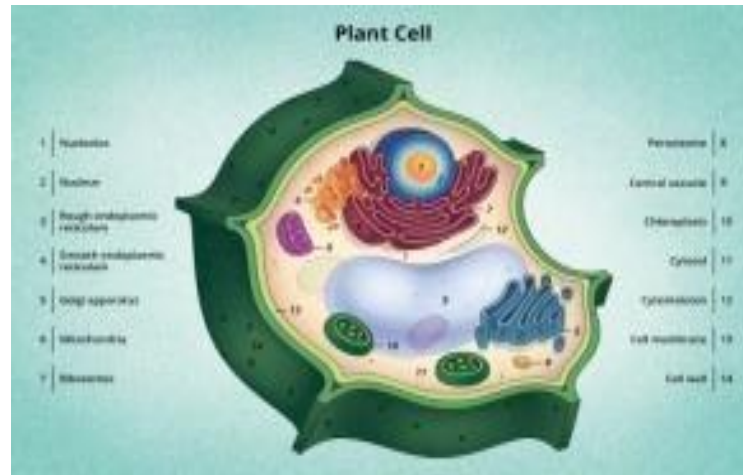


# Cell Structure and function

- a) In 1655, Scientist **Robert Hooke** made an observation while examining a dried section of cork tree with a crude light microscope he observed small chambers and named them cells.
- b) **The cell is known as the basic structural and functional unit of life as all organisms are composed of cells.**
- c) The single celled organisms are called **unicellular** e.g.- amoeba while those having more than one cell are called **multi-cellular**.
- d) **All basic chemical and physiological functions of living beings - for example, repair, growth, movement, immunity, communication, and digestion etc are carried out inside the cells.**
- e) **Structure of a cell**- Cells are mostly round, spherical or elongated in shape. Cells sometimes are quite long. Some are branched like the nerve cell or a neuron. Components of the cell are enclosed in a membrane which provides shape to the cells. Cell wall is an additional covering over the cell membrane to give shape and rigidity to plant cells.
- f) The **nerve cell** receives and transfers messages, thereby helping to control and coordinate the working of different parts of the body.
- g) The **cell membrane functions** is a semi-permeable membrane, that allows the transmission a very few molecules across it. It gives shape to the cell. The plasma membrane is porous and allows the movement of substances or materials in and out of the cell.
- h) **Cytoplasm** is the jelly-like substance present between the cell membrane and the nucleus. Various cell organelles, of cells are present in the cytoplasm are mitochondria, Golgi bodies, ribosomes, etc.
- i) **Nucleus** is generally spherical body and located in the centre of the cell. It can be stained and seen easily with the help of a microscope. It acts as a control centre of all the activities of a cell. Nucleus is separated from the cytoplasm by a membrane called the nuclear membrane. This membrane is also allows the movement of materials between the cytoplasm and nucleus.
- j) **The entire content of living cells including cytoplasm and nucleus is known as protoplasm.**
- k) **Vacuoles** are fluid-filled structures surrounded by a membrane. Plant cells have vacuoles that are very large in size.

- l) **Plant cells** have a cell wall, and animal cells only have a cell membrane. Plant cells contain chloroplasts which are used for photosynthesis. Plant cells have a large vacuole, compared to an animal cell.
- m) In green plants parts like leaves have organelles called plastids which contain green pigment called chlorophyll. Chlorophyll containing plastids are called chloroplasts that provide green color to the leaves. Chlorophyll is essential for the process of photosynthesis.



- n) Animal Cell has Cell membrane, Cytoplasm, Endoplasmic Reticulum, Lysosomes, Golgi bodies etc.
- o) Plant cell has plastids which are absent in Animal cell
- p) **Centrioles** are present in an animal cell but absent in Plant cell
- q) Vacuoles are few but larger in plant cell. Vacuoles are few and many in Animal cell.

