

(Size of the Cells)

- The size of the cell in living organisms may be as small as a millionth of a metre (micrometer).

- Most of the cells are microscopic in size and are not visible to the unaided eye. They need to be enlarged or magnified by a microscope.

- The smallest cell is 0.1 to 0.5 micrometer in bacteria.

- The largest cell measuring (170 mm x 130 mm) is the egg of an ostrich.

* The size of the cell has no relation with the size of the body of the animal or plant.

→ It is not necessary that the cells in the elephants be much bigger than those in a rat.

→ The size of the cell is related to its function. For example:- Nerves and cells both in the elephant and rat.

→ They perform the same function that of transferring messages.

(Cell structure and functions)

- Each organ in a body performs their ~~fr~~ different functions, such as digestion, assimilation and absorption.
- Different organs of a plant perform specific functions. ~~E~~
For example - roots help in absorption of water and minerals. Leaves are responsible for synthesis of food.
- * Each organ is further made up of smaller parts ^{of cells} called tissues.
- A tissue is a group of similar cells performing a specific function.

(Parts of the cell)

• Cell membrane (कोशिका झिल्ला)

- The basic components of a cell are cell membrane, cytoplasm, and nucleus. The cytoplasm and nucleus are enclosed within the cell membrane also called the plasma membrane.
- The plasma membrane is porous and allows the movement of substances or materials inward or outward.

Some of them contains contains green pigment called chlorophyll. Green colour plastids are called Chloroplast.

(Comparison of plant and animal cells).

Cell

1. Discovery of Cell
2. Types of Cell
3. Shape, Size, number of Cells
4. Parts of Cell - Cell membrane, Cytoplasm, Nucleus.
5. Plant cell vs animal cell

1) What is Cell?

→ Cell is the ^{smallest} structural and functional unit of life.

2) Who discovered cell?

→ Robert Hooke discovered Cell in 1665 A.D. He discovered dead Cell of Cork ^{Under a self-made microscope} and it was like honey-comb.

3) What is cork?

→ The part of bark of tree is called Cork.

4) Who discovered living cell?

→ ^{Antony Van} Leeuwenhoek discovered living Cell in 1674 in the pond water.

5) Who discovered nucleus?

→ Robert Brown discovered nucleus in 1831.

6) What is a theory?

→ A true characteristic and facts about something given by someone called a theory of that person.

7) Who suggested that all organisms are made up of cells?

→ Schleiden and Schwann suggested that all organisms are made up of cells in 1838, 1839.

8) Who suggested that all cells come from cells that already exist in nature?

→ Virchow suggested that all cells come from cells that already exist in nature in 1855.

9) How can we define the no. of cells?

→ The no. of cells can be defined by the division of unicellular and multicellular organisms.

10) Which unit is used to measure the size of cell?

→ Micrometer (Millionth of metre).

11) How can we observe cell?

→ By using an advanced microscope.

12) Name the smallest cell and largest cell found in which organism?

→ The smallest cell is 0.1mm to 0.5mm in bacteria while the largest cell is 170mm x 130mm in the egg of ostrich.

13) What is tissue?

→ A tissue is a group of similar cells that performs a specific function.

14) How many parts of the cell?

→ There are three parts of the cell: Cell membrane, Cytoplasm, Nucleus.

15) What is cell membrane?

→ Cell membrane is also called

plasma membrane. Cell membrane is the outer layer of cell and it is porous and allows the substances to move in or out.

16) What is cell wall?

→ The cell membrane is covered by another ~~th~~ thick layer called cell wall.

17) What is nucleus?

→ The central round body in the center of cell called nucleus.

18) What is cytoplasm?

→ The jelly-like substances between nucleus and cell membrane called cytoplasm.

19) Which part gives shape to the cell?

→ Cell membrane gives shape to the cell.

19) What is nuclear membrane?

→ The nucleus is separated from the cytoplasm by a membrane called ~~set~~ nuclear membrane.

20) What is Chromosomes?

→ Nucleus contains thread-like structure called Chromosomes.

21) What is Vacuole?

→ The blank structures in the cytoplasm called Vacuole.

22) What are plastids?

→ Several small coloured bodies in the cytoplasm of leaf cells called plastids. Ex → Tradescantia leaf.

23) What is chlorophyll?

→ The green pigments in the leaf cells called chlorophyll.

24) What is Chloroplast?

→ The green plastids are called chloroplasts.

25) What is precaryotic cell?

→ The cell having nuclear material without nuclear membrane called precaryotic cell.

26) What are Precaryotic organisms?

→ The organisms having precaryotic cells called precaryotic organism.
Ex → Blue-green algae, Bacteria.

27) What is eucaryotic cell?

→ The cell having nuclear material with nuclear membrane called eucaryotic cell.