

## CELL STRUCTURE AND FUNCTIONS

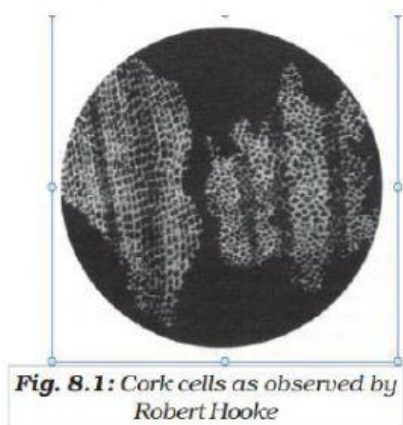
### Discovery of the Cell

Robert Hooke in 1665 \_\_\_\_\_ slices of cork under a simple magnifying device. (observe past)

Cork \_\_\_\_\_ a part of the bark of a tree. (be)

He \_\_\_\_\_ thin slices of cork and \_\_\_\_\_ them under a microscope. (take past/observe past)

He \_\_\_\_\_ partitioned boxes or compartments in the cork slice (Fig. 8.1). (notice past)



These boxes \_\_\_\_\_ like a honey- comb. (appear past)

He also \_\_\_\_\_ that one box was separated from the other by a wall or partition. (notice past)

Hooke \_\_\_\_\_ the term 'cell' for each box. (coin past)

What Hooke \_\_\_\_\_ as boxes or cells in the cork were actually dead cells. (observe past)

### The Cell

Both, bricks in a building and cells in the living organisms, \_\_\_\_\_ basic structural units. (be)

The buildings, though built of similar bricks, \_\_\_\_\_ different designs, shapes and sizes. (have)

Similarly, in the living world, organisms \_\_\_\_\_ from one another but all \_\_\_\_\_ made up of cells. (differ/be)

Cells in the living organisms \_\_\_\_\_ complex living structures unlike non-living bricks. (be)

### Organisms show Variety in Cell Number, Shape and Size

How do scientists \_\_\_\_\_ and study the living cells? (observe)

They \_\_\_\_\_ microscopes which \_\_\_\_\_ objects. (use/magnify)

Stains (dyes) are used to \_\_\_\_\_ parts of the cell to \_\_\_\_\_ the detailed structure. (colour / study)

There \_\_\_\_\_ millions of living organisms. (be)

They \_\_\_\_\_ of different shapes and sizes. (be)

Their organs also \_\_\_\_\_ in shape, size and number of cells. (vary)

Let us \_\_\_\_\_ about some of them. (study)

## Number of Cells

Can you \_\_\_\_\_ the number of cells in a tall tree or in a huge animal like the elephant? (guess)

The number \_\_\_\_\_ into billions and trillions. (run)

Human body \_\_\_\_\_ trillions of cells which vary in shapes and sizes. (have)

Different groups of cells \_\_\_\_\_ a variety of functions. (perform)

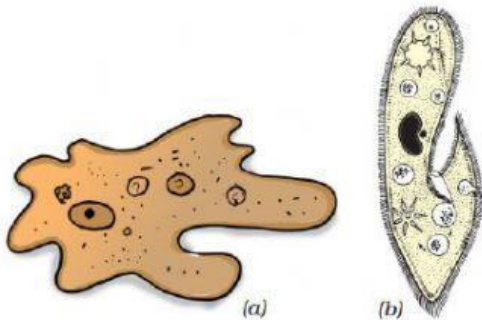
Organisms made of more than one cell \_\_\_\_\_ called multicellular (multi : many; cellular : cell) organisms. (be)

The number of cells being less in smaller organisms does not, in any way, \_\_\_\_\_ the functioning of the organisms. (affect)

You will be surprised to know that an organism with billions of cells \_\_\_\_\_ life as a single cell which is the fertilised egg. (begin)

The fertilised egg cell \_\_\_\_\_ and the number of cells increase as development proceeds. (multiply)

Look at Fig 8.3 (a) and (b). Both organisms are made up of a single cell. The single-celled organisms are called unicellular (uni : one; cellular : cell) organisms.



**Fig. 8.3 :** (a) Amoeba (b) Paramecium

A single-celled organism \_\_\_\_\_ all the necessary functions that multicellular organisms \_\_\_\_\_. (perform/perform)

A single-celled organism, like amoeba, \_\_\_\_\_ and \_\_\_\_\_ food, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_. (capture/digest/respire/excrete/grow/reproduce)

Similar functions in multicellular organisms \_\_\_\_\_ carried out by groups of specialised cells forming different tissues. Tissues, in turn, \_\_\_\_\_ organs. (be/form)