

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)

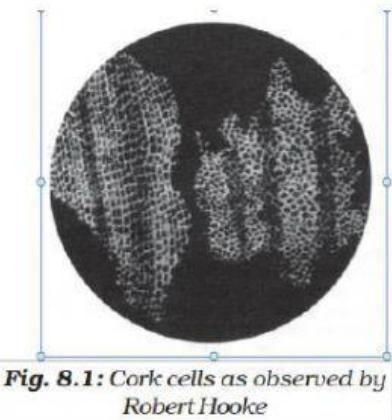


Fig. 8.1: Cork cells as observed by Robert Hooke

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.

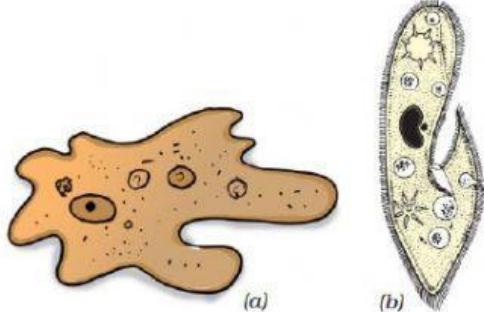


Fig. 8.3 : (a) Amoeba (b) Paramecium

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)