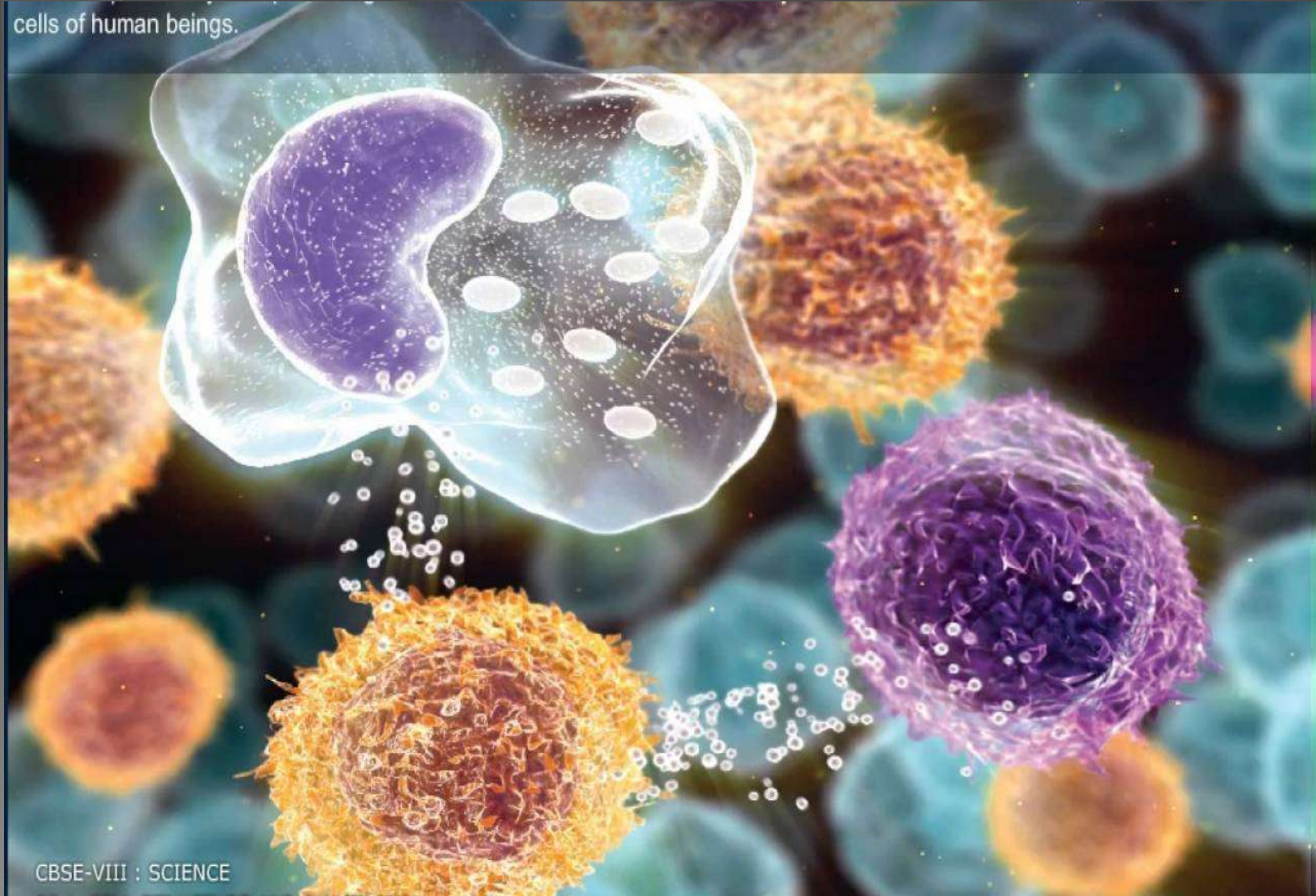


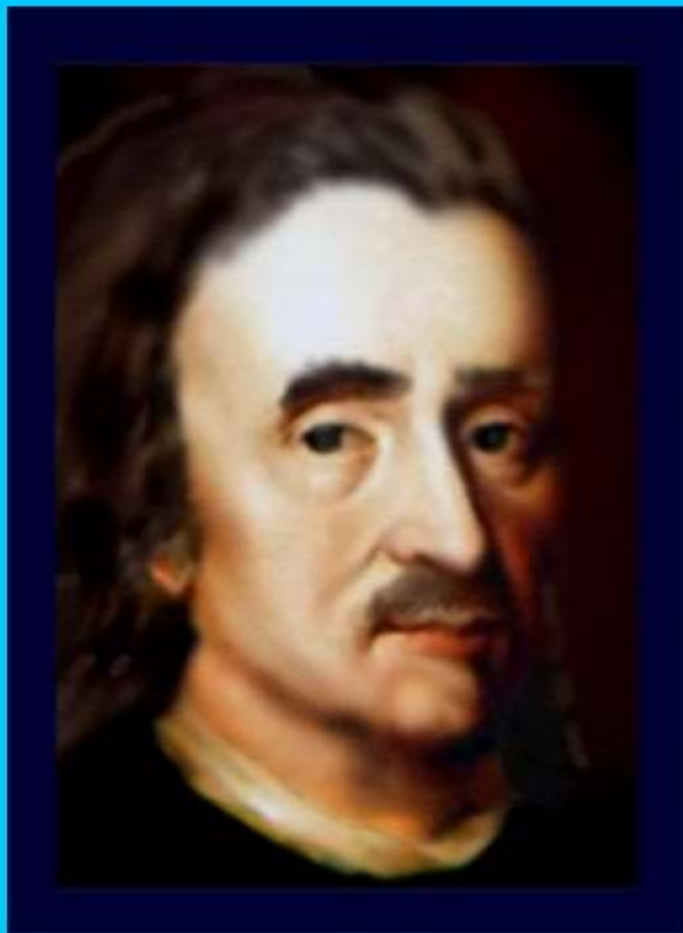
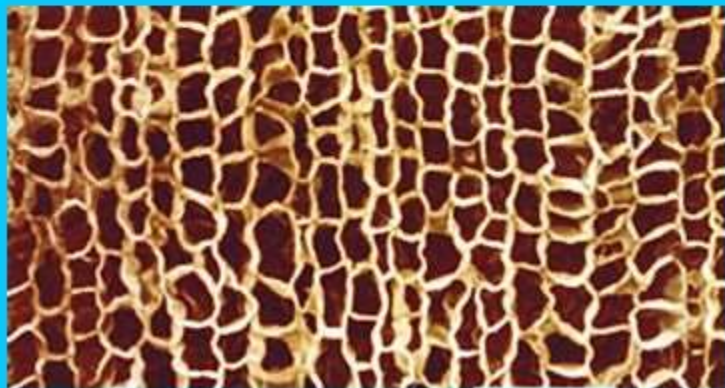
CELL_- Structure and Functions

cells of human beings.



First to View Cells

- In 1665, Robert Hooke used a microscope to examine a thin slice of cork
- What he saw looked like small boxes so he called them "cells"



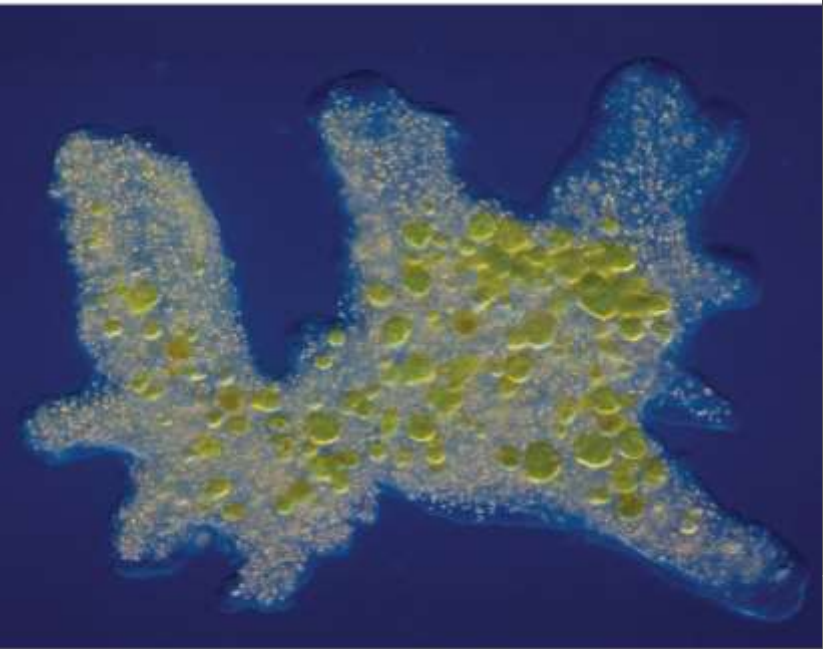
Types of organisms

```
graph TD; A[Types of organisms] --> B[On the basis of number of cells]; B --> C[Unicellular]; B --> D[Multicellular]
```

On the basis
of number of
cells

Unicellular

Multicellular



**Different shapes
of amoeba**



PSUEDOPODIA
(false feet)

MOTION IN AMOEBA

A video.....

NUTRITION IN AMOEBA

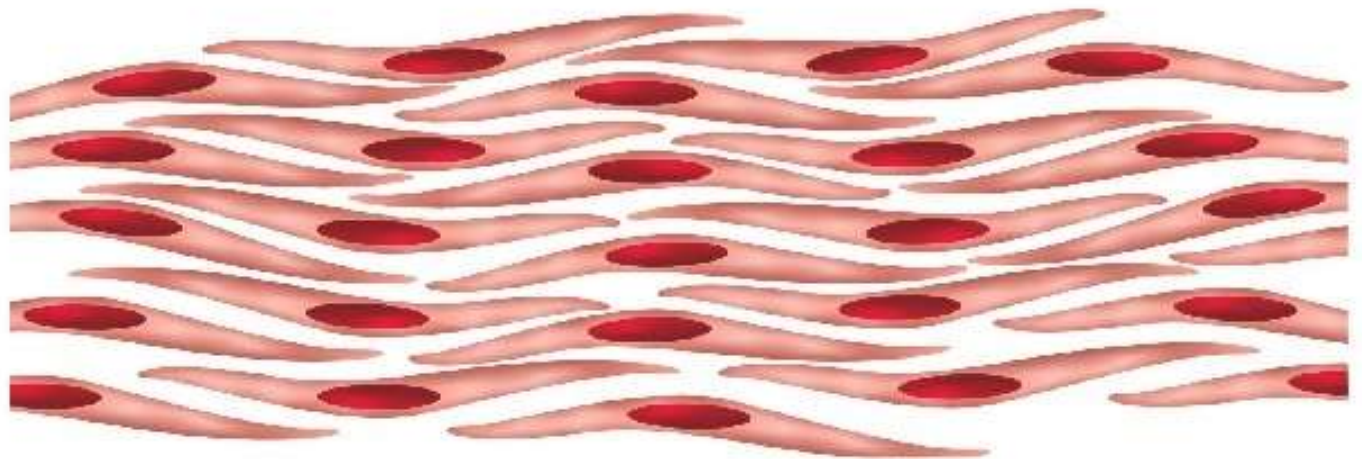
A video.....

SHAPE OF CELLS



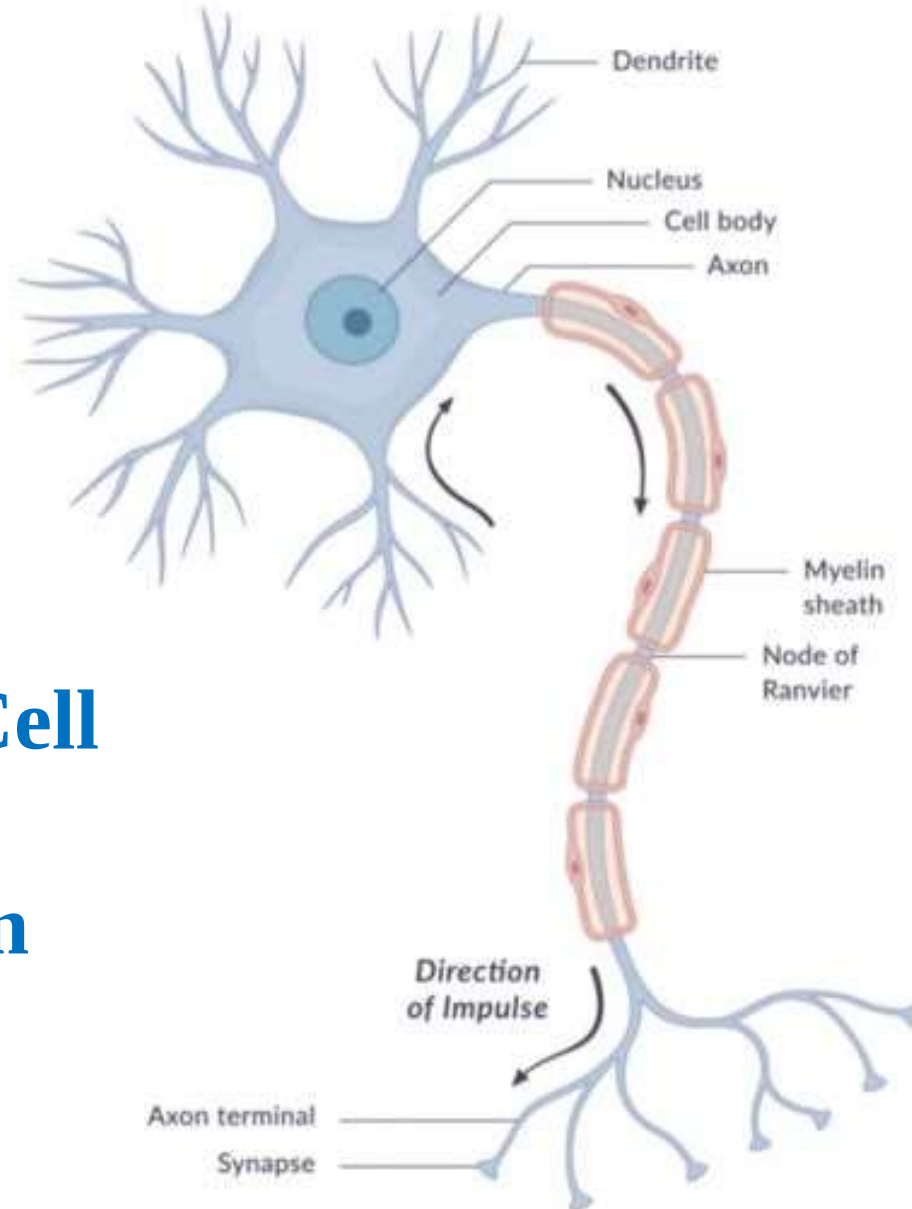
Red Blood Cells

visuals:unlimited



Smooth Muscle cells

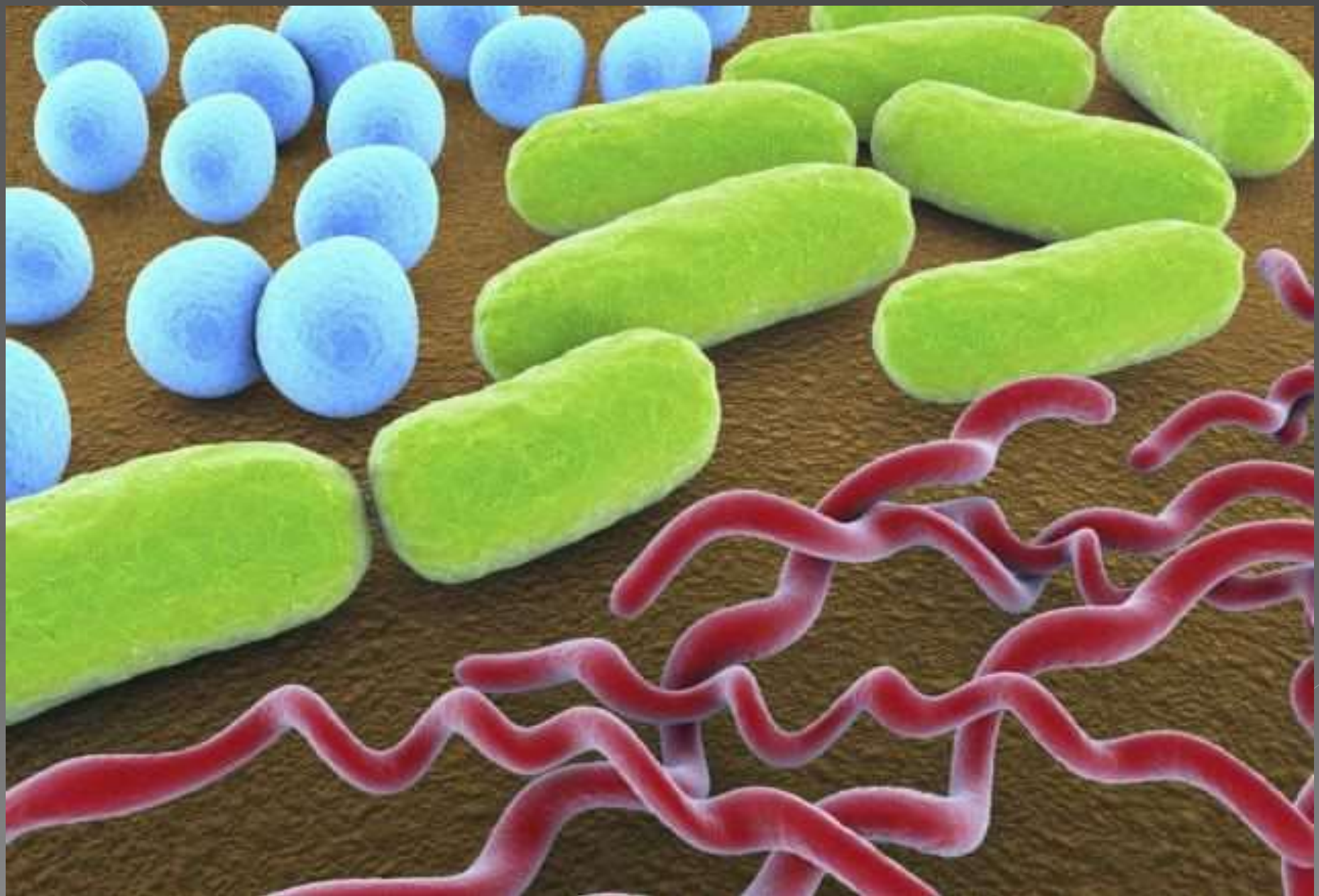
Nerve Cell OR Neuron



SIZE OF CELLS

Smallest Cell - *Bacteria*

Largest Cell - *Ostrich's Egg*



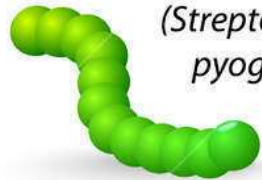


SHAPES OF BACTERIA

COCCI



Diplococci
(*Streptococcus pneumoniae*)

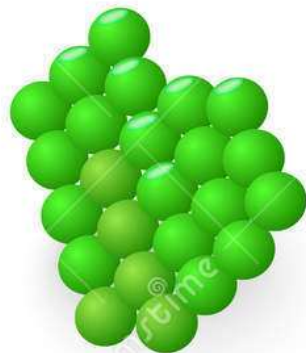


Streptococci
(*Streptococcus pyogenes*)

Tetrad

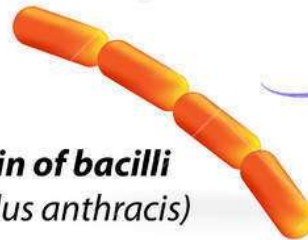


Sarcina
(*Sarcina ventriculi*)

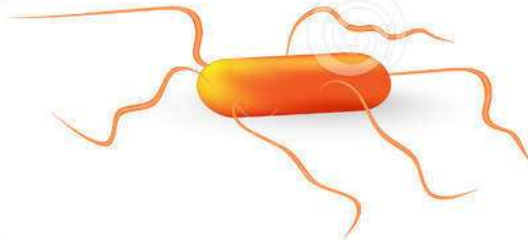


Staphylococci
(*Staphylococcus aureus*)

BACILLI



Chain of bacilli
(*Bacillus anthracis*)



Flagellate rods
(*Salmonella typhi*)



Spore-former
(*Clostridium botulinum*)

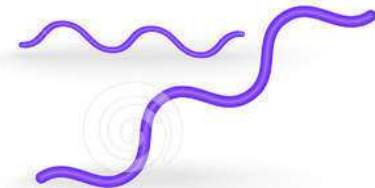
OTHERS



Vibrios
(*Vibrio cholerae*)



Spirilla
(*Helicobacter pylori*)



Spirochaetes
(*Treponema pallidum*)



QUICK REVISION

Q1. Who discovered cell?

Robert Hooke, 1665

Q2. What is a cell?

Cell is the structural and functional unit of an organism. It is called as the building block of the organism.

Q3. Why is cell called as structural unit?

Cell → Tissue → Organ →
Organ System → Organism

Q4. Classify animals on the basis of number of cells?

1. Unicellular
2. Multicellular

Q5. Give examples:

- i) Round shape cell -
- ii) Spindle shaped cell-
- iii) Branched cell-

RBC

Muscle cell

Nerve cell

Q6. Give example:

i) Largest cell -

ii) Smallest cell-

**Ostrich's
egg**

Bacteria

Parts of Cell

Cell
Membrane

Cytoplasm

Nucleus

Nuclear
Membrane

Types of Organisms

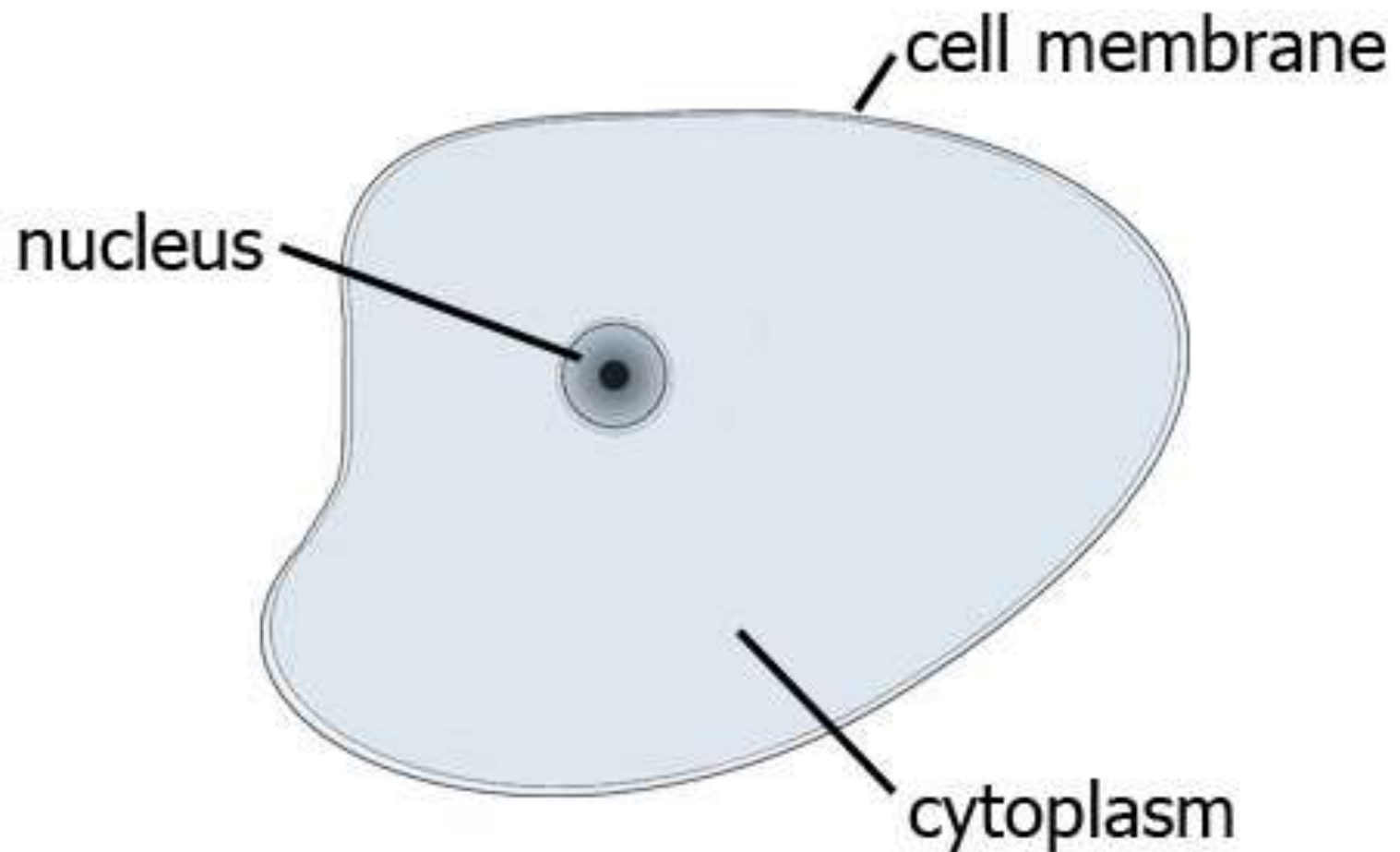
```
graph TD; A[Types of Organisms] --> B[On the basis of presence/absence of nuclear membrane]; B --> C[Prokaryotes]; B --> D[Eukaryotes];
```

On the basis of
presence/absence of
nuclear membrane

Prokaryotes

Eukaryotes

Animal Cell



Cell membrane

- To protect the cell from its surrounding
- To control the movement of substances in and out of the cell

Cytoplasm

- Many cellular processes occur here.
- Support the cell organelles

Nucleus

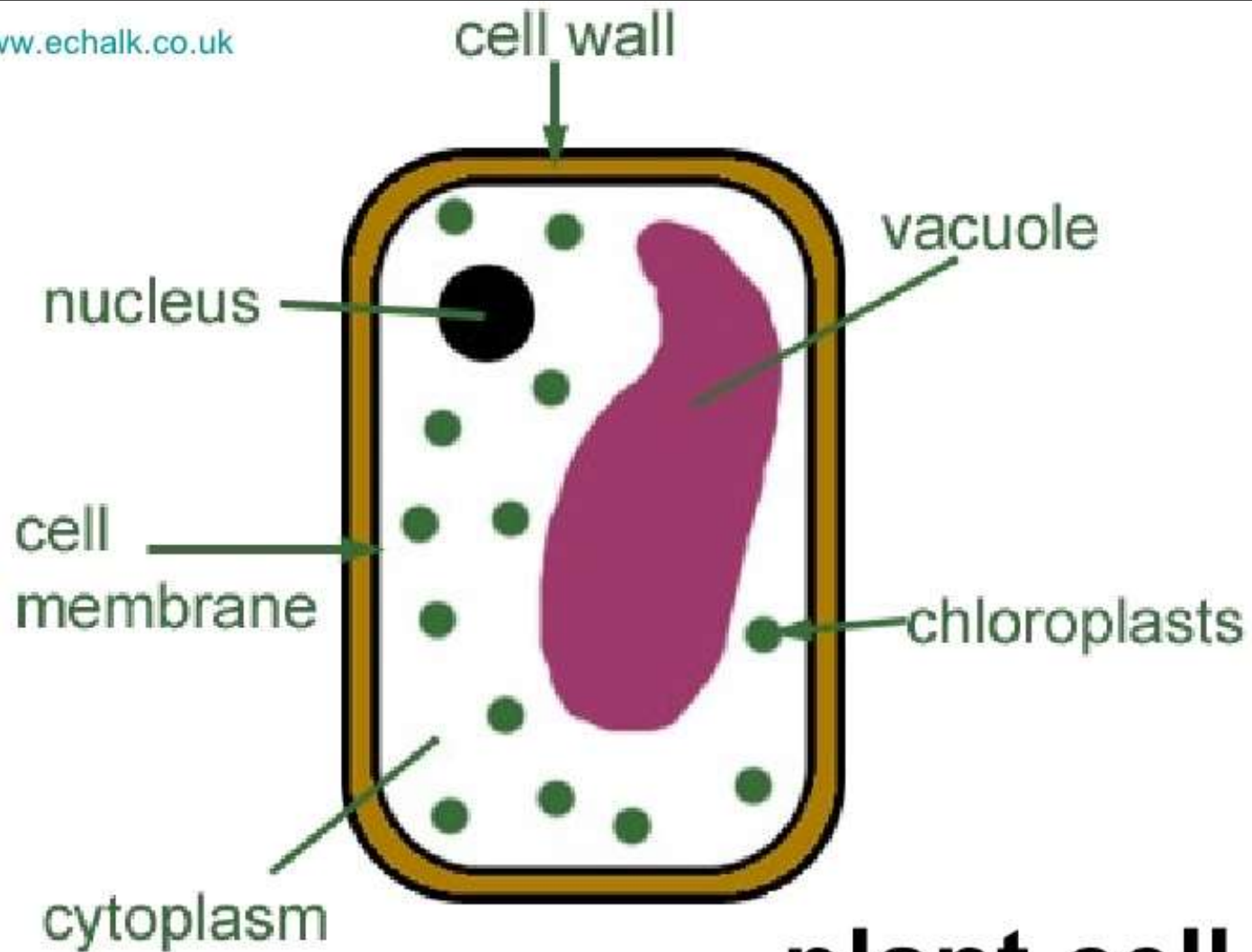
- Stores cell's hereditary material
- Coordinates cell activities.

CYTOPLASM

&

PROTOPLASM

????



plant cell

Cell Wall

- Protects the cell from damage.
- Provides shape to cell

Difference between plant and animal cell

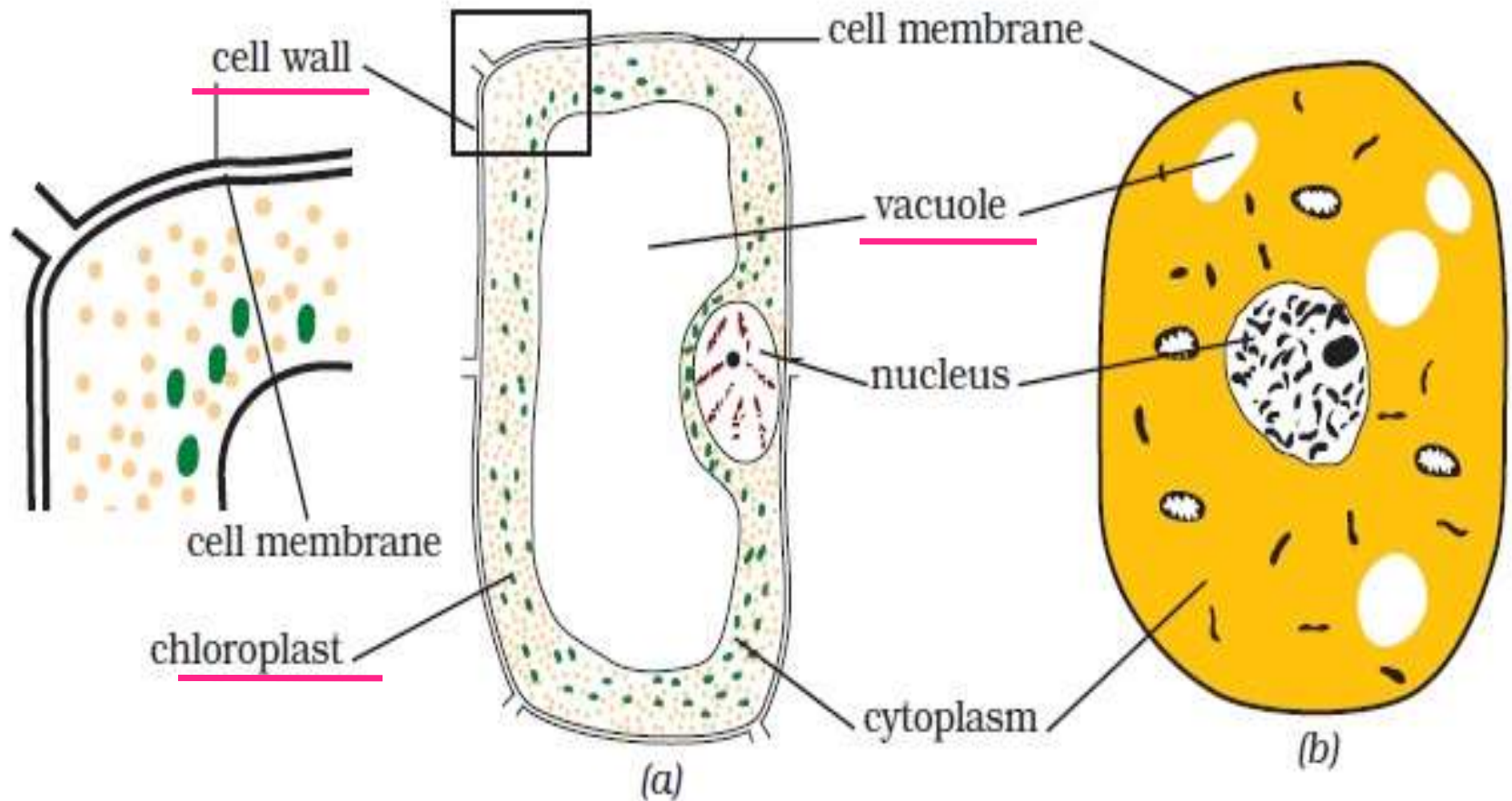


Fig. 8.7 : (a) Plant cell (b) Animal cell

Animal Cell	Plant Cell
1. It does not have a cell wall.	1. It has a cell wall
2. It does not contain chloroplast.	2. It contains chloroplast.
3. It has a small vacuole.	3. It has a large vacuole.

Topics covered till now:

- ◉ About cell.
- ◉ Discovery of cell.
- ◉ Number of cell.
- ◉ Shape of cell.
- ◉ Size of cell.
- ◉ Cell structure.
- ◉ Animal cell, plant cell
- ◉ Difference between plant cell and animal cell.