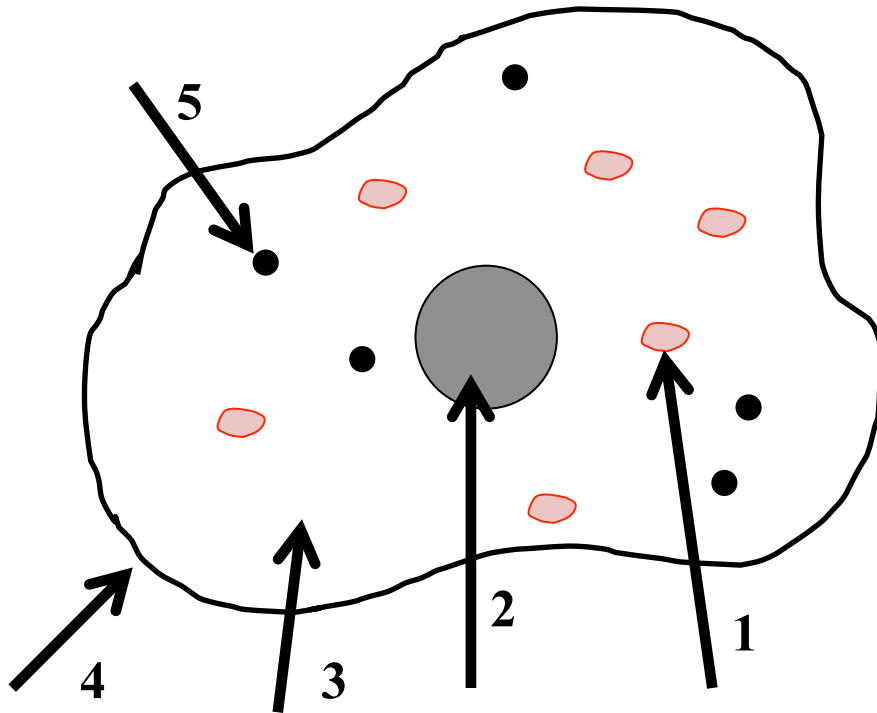
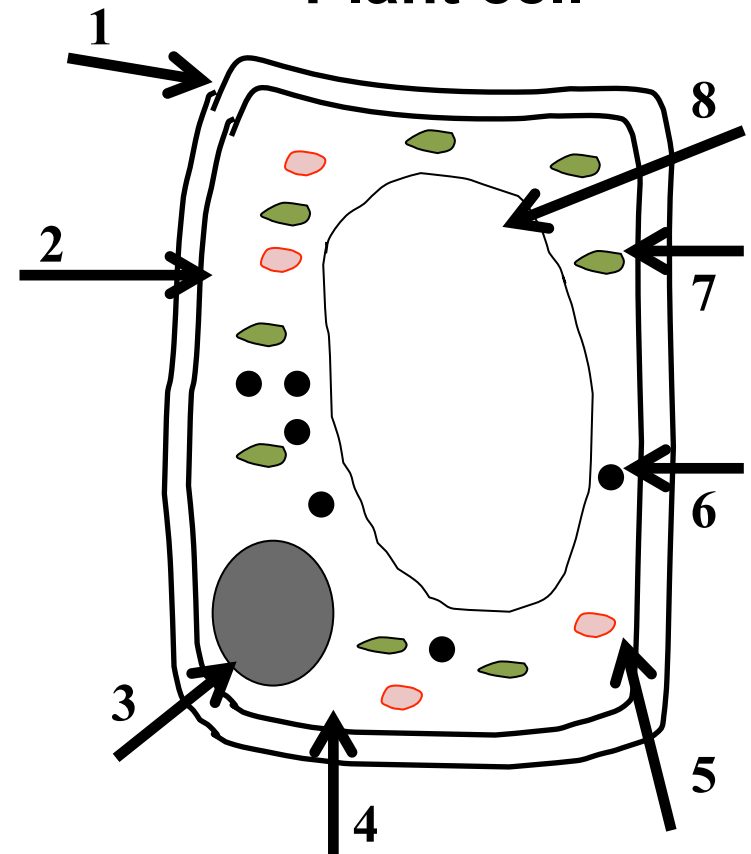


Structures of animal cell & plant cell

Animal cell



Plant cell



Edexcel IGCSE Biology (2017) 9-1

2.3 Structure and functions in living organisms

(b) Cell Structure

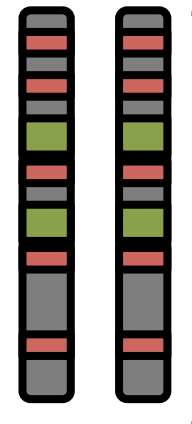
2.3 Describe the functions of the nucleus, cytoplasm, cell membrane, cell wall, mitochondria, chloroplasts, ribosomes and vacuole.

1) Nucleus

- Largest organelle - present in animal & plant cell.
- Control the **activities of cell**.
- Nucleus contains **chromosomes** in pairs - 23 pairs in human.

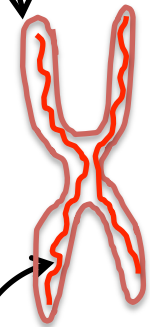
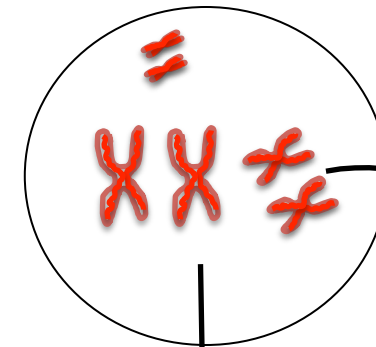
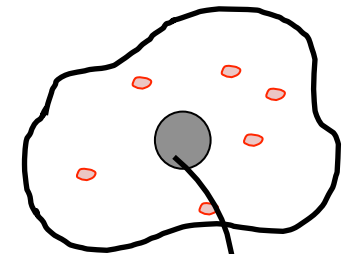
Function

- DNA has **genes**, which code for proteins such as **enzymes**.
- Genes determines **characteristics**.



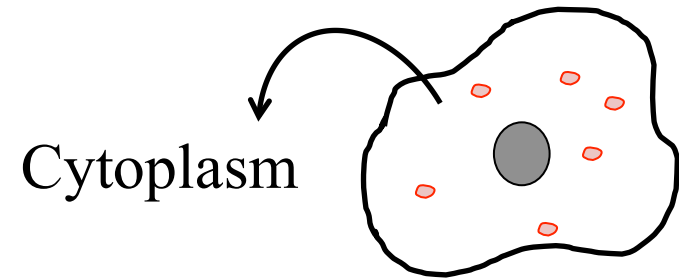
Chromosome

DNA (Deoxyribonucleic acid)



2) Cytoplasm

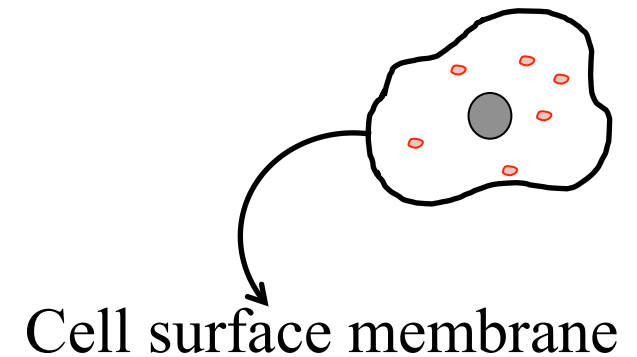
- Present both in animal & plant cell.
- Jelly like substance that contains **organelles**.
- Most of cell's **chemical reactions** take place in cytoplasm.



Function

3) Cell surface membrane

- Present both in animal & plant cell.
- Controls what **enters** or **leave** the cell.
- **Selectively permeable**.

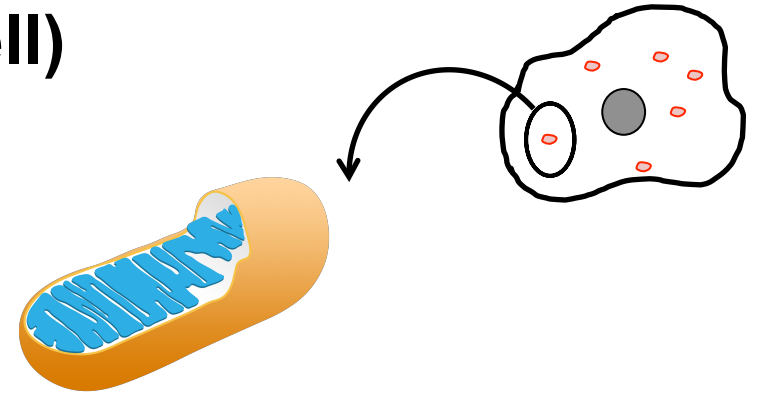


Function

4) Mitochondria (plant cell & animal cell)

Function

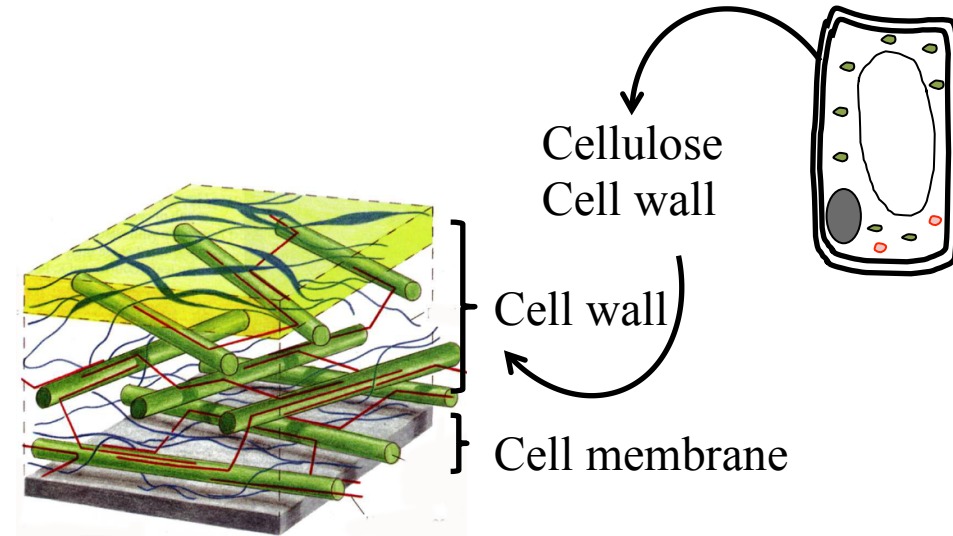
- Carryout **respiration** producing energy.
- Abundant in **nerve & muscle cells**.



5) Cell wall (Only in plant cell)

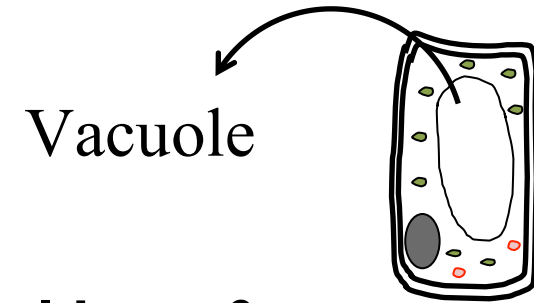
Function

- Made up of carbohydrate **cellulose**.
- Maintains the **shape of the cell**.
- Helps plant cell **withstand internal pressure** - turgor pressure.
- **Freely permeable** - no barrier to substances.



6) Vacuole

- Large vacuole found in plant cells.
- Contains cell sap - liquid of **sugars, mineral ions &** other solutes.

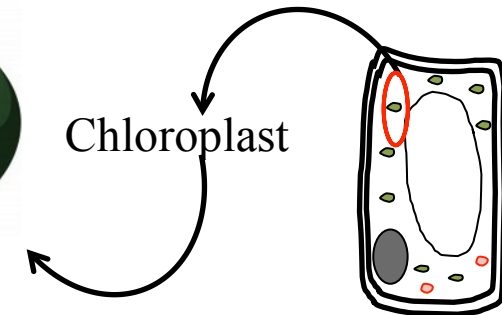
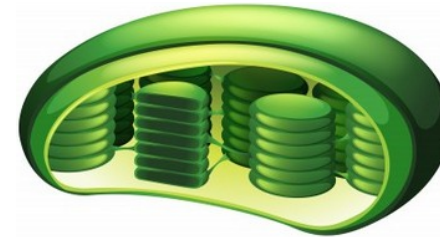


Function

- **Supports the cell.**

7) Chloroplast

- Found in plant cell.



Function

- **Absorb light energy** to make food such as glucose in the process of **photosynthesis**.

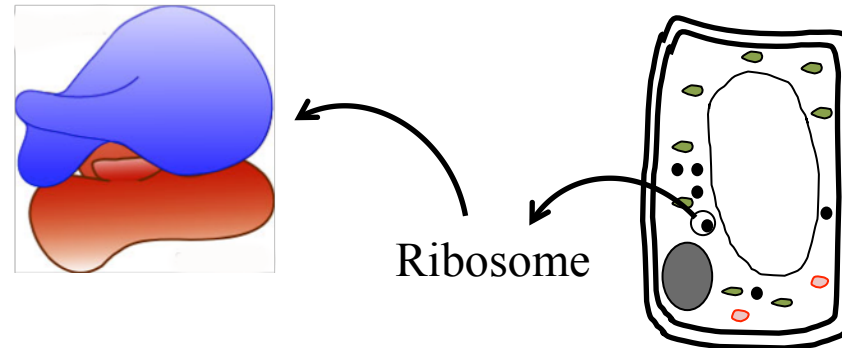
- Contains green pigment - **chlorophyll** - that gives plants its green color.



8) Ribosome

Function

- **Proteins** are made on **ribosomes**.



Summary

Structure	Function
Nucleus	Controls cell activities through chromosomes.
Cytoplasm	Site where chemical reactions take place.
Cell surface membrane	Control what enters and leaves the cell.
Mitochondria	Produces energy through respiration.
Cell wall	Provides support and helps withstand turgor pressure.
Vacuole	Contains cell sap and helps support the plant cell.
Chloroplast	Contains chlorophyll for photosynthesis.
Ribosome	Site where proteins are made.