



STUDY PLUS

A BRIGHTER FUTURE

Year 8 Biology 1

Topics: Cells, Microscopy

Name :

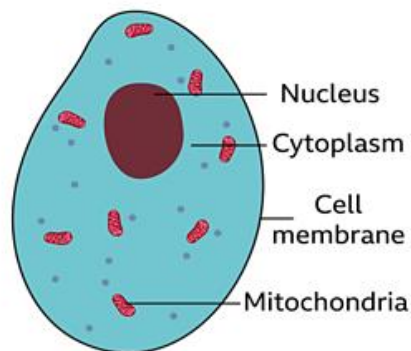
Year :

- **Cells**

Cells are the basic units of all living things.

- **Animal Cell Structure**

Animal cells all contain subcellular structures called **organelles**.



- **Nucleus**

A nucleus that holds all the genetic material (including DNA) needed to control the cell's activities.

- **Cytoplasm**

Cytoplasm which is a jelly-like substance that contains nutrients, salts and enzymes required for chemical reactions to take place.

- **Cell membrane**

A semi-permeable cell membrane that controls what comes in and out of the cell.

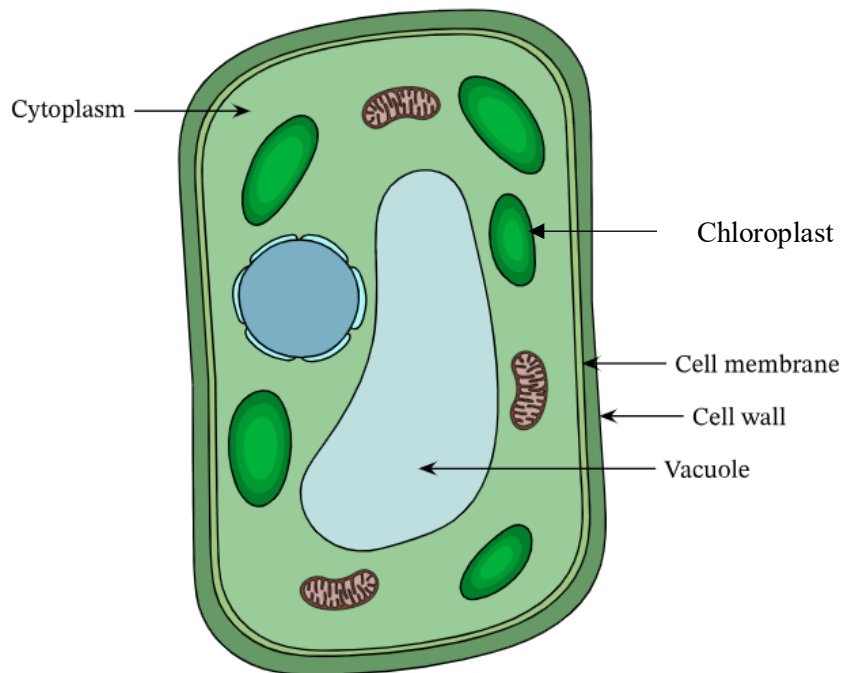
- **Mitochondria**

Many mitochondria that contain enzymes needed for respiration, which releases energy for the cell to use.

- **Ribosome**

Ribosomes are for the production of proteins (protein synthesis).

- **Plant Cell Structure**



Plant cells contain the same features as animal cells, but they also have:

- **Cell wall**

The cell wall made of cellulose that provides structure and protection to the cell.

- **Vacuole**

Vacuole that holds a weak solution of sugar and salts called cell sap that keeps the cell swollen.

- **Chloroplast**

Many chloroplasts that are the site of photosynthesis in the cell. They contain **chlorophyll**, a green pigment that absorbs the light and specific enzymes required for photosynthesis to occur and food to be produced.

1. Fill in the blanks. Use the given words.

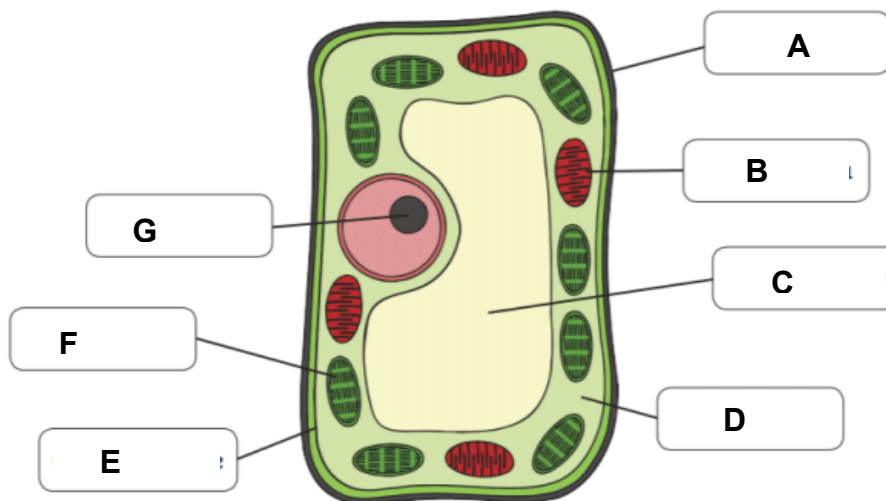
millions animals single cells types

The bodies of all plants and are made up of tiny living units called

Some microscopic organisms consist of only a cell but the bodies of most plants and animals are made up of of cells. There are many different of plant and animal cells.

[5 marks]

2. Label the given plant cell.



A :

B :

C :

D :

E :

F :

G :

[7 marks]

3. Join up the cell parts below to their correct functions.

Organelle	Structure and function
Cell membrane	Made of cellulose. It supports and protects the cell.
Cytoplasm	Site where proteins are made (protein synthesis).
Nucleus	A jelly like substance where most of the chemical reactions happen within the cell.
Chloroplast	Controls the functions of the cell and contains genetic material (DNA).
Vacuole	The site of aerobic respiration which produces energy for the cell.
Cell wall	Allows substances to move in and out of the cell.
Ribosome	The site where photosynthesis takes place.
Mitochondria	Contains a liquid called sap. It keeps the plant cell rigid.

[8 marks]

4. If the given statement is correct put a ☒ and if it is incorrect put a ✕.

- a. All living things are made of cells. ()
- b. Plant cells do not have a nucleus. ()
- c. Animal cells have a cell wall. ()
- d. The cell membrane controls what enters and leaves the cell. ()
- e. Chloroplasts help plant cells make their own food. ()
- f. Mitochondria are known as the powerhouse of the cell. ()
- g. Plant cells and animal cells have the same shape. ()
- h. Cytoplasm is a jelly-like substance inside the cell. ()
- i. The vacuole in plant cells is usually smaller than in animal cells. ()
- j. Only plant cells have ribosomes. ()

[10 marks]

5. Fill in the blanks.

cell membrane	cell wall	cytoplasm	nucleus
chloroplast	vacuole	ribosome	mitochondria

- a. The is the control centre of the cell.
- b. The provides energy to the cell.
- c. The helps plants make food using sunlight.
- d. The is a jelly-like substance that fills the cell.
- e. The controls what enters and exits the cell.
- f. The is only found in plant cells and gives them shape.
- g. The stores water and nutrients in plant cells.
- h. Tiny structures called make proteins for the cell.

[8 marks]



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