



Unit 3 • Living Beings and Their Structure: the cell

Name _____ Class _____ Roll no. _____ Date _____ Marks _____ / 38

1 Key words

[4]

Fill in the blanks with words from the box. Two words in the box are not needed. Each blank carries 0.5 mark.

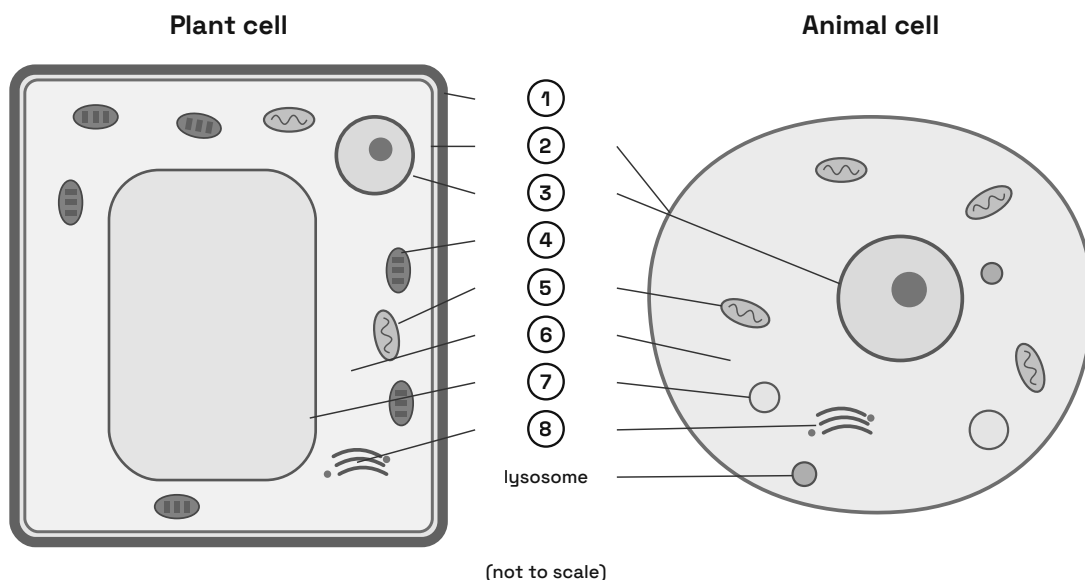
cellulose chromoplasts chromosomes cytology histology leucoplasts lysosomes
mitochondria ribosomes semi-permeable

The branch of biology that studies cells is called _____. The cell wall of a plant is made mainly of _____. The cell membrane lets some substances through and stops others, so it is called _____. The _____ release energy from glucose and are called the power-houses of the cell. The _____ join amino acids to make proteins. The _____, full of digestive enzymes, are called suicide bags. Colorless plastids that store starch in roots and potatoes are called _____. Before a cell divides, its chromatin threads coil up into short, thick _____.

2 Label the diagram

[4]

The diagram shows a plant cell and an animal cell. Write the names of the parts numbered 1 to 8. Each carries 0.5 mark.



1. _____
3. _____
5. _____
7. _____

2. _____
4. _____
6. _____
8. _____



[5]

Choose the correct option for each of the following questions.

- i. What is the branch of science that studies cells called? [1]
 - a. histology
 - b. cytology
 - c. cytogenetics
 - d. anatomy
- ii. In what form is the energy released in a cell stored before it is used by the organelles? [1]
 - a. DNA
 - b. RNA
 - c. RBC
 - d. ATP
- iii. What would happen if a cell had no cell membrane? [1]
 - a. its organelles would be lost
 - b. the cell would die
 - c. it couldn't carry out metabolism
 - d. the nucleus would be lost
- iv. A potato tuber is white inside and full of starch. Which plastids does it have most of? [1]
 - a. chloroplasts
 - b. chromoplasts
 - c. leucoplasts
 - d. it has no plastids
- v. Which function of the nucleus is needed for the growth and development of the body? [1]
 - a. making proteins
 - b. transport inside the cell
 - c. taking part in cell division
 - d. controlling and coordinating all the functions of the cell

[3]

Write very short answers to the following questions.

- a. Who first saw and named the cell, in 1665? [1]
-
-
- b. How many chromosomes are there in each body cell of a human? [1]
-
-
- c. Which plastids make a ripe tomato red? [1]

[8]

Write short answers to the following questions.

- a. Give a reason: ribosomes are called the protein factories of the cell. [2]



b. Give a reason: the cell wall gives a fixed shape to plant cells. [2]

c. Write any two differences between a chloroplast and a chromoplast. [2]

d. Write one role each of the Golgi body and the vacuole in a cell. [2]

6 Long answers [8]

Write long answers to the following questions.

a. Where are mitochondria found in a cell? Write their functions. Why are they called the power-houses of the cell? [4]

b. Explain, with the example of digestion, how cells, tissues and organs work together in the human body. [4]



[4]

a. A Paramecium is about 0.25 mm long. How many of them, laid end to end, would make a line 1 cm long? (1 cm = 10 mm)

Answer:

- b. A red blood cell lives about 120 days. A cell lining the intestine lives about 4 days. How many times is the lining cell replaced while one red blood cell lives? How many months is 120 days, taking a month as 30 days?

[illegible]

Answer:

[2]

A lysosome is full of enzymes strong enough to digest a cell. Why doesn't it digest its own membrane, or the cell around it, every day?

(not marked)

Look at your slides of onion peel cells and cheek cells under the microscope, and fill in the table.

Feature	Onion peel cell	Cheek cell
shape		
cell wall: seen or not?		
large vacuole: seen or not?		
where the nucleus is		
fitted together in rows or scattered?		

