

NAME:

CLASS:

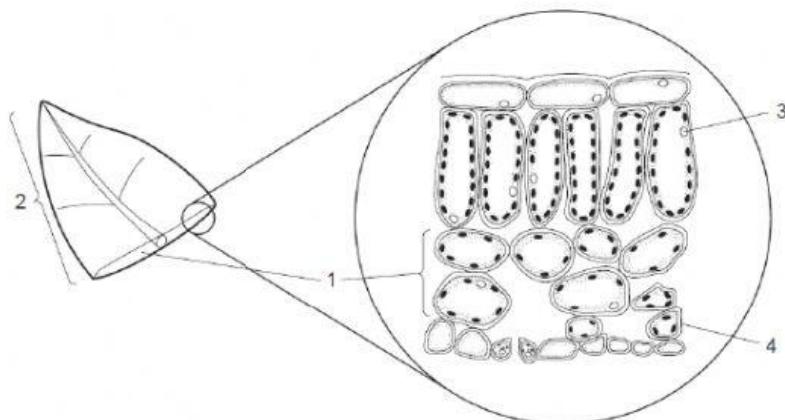
DATE:

BIOLOGY REVISION

TOPIC: CELL STRUCTURE & ORGANISATION

Multiple Choice Questions:

1. The diagram shows the structure of a leaf. [Nov 2008, Q1]

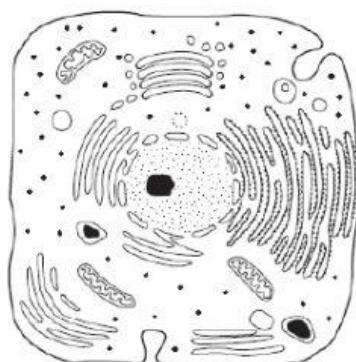


Which letter identifies a cell, a tissue and an organ?

	Cell	Tissue	Organ
A	3	2	4
B	1	4	3
C	4	1	2
D	2	3	1

2. The diagram represents a cell as seen under the electron microscope.

[Nov 2009, Q2]



What type of cell is this?

	Type of cell	Reason
A	Animal cell	Outer layer is the cell membrane
B	Bacterium	No chromosomes are visible
C	Plant cell	Cytoplasm is visible
D	Plant cell	Cell wall is visible

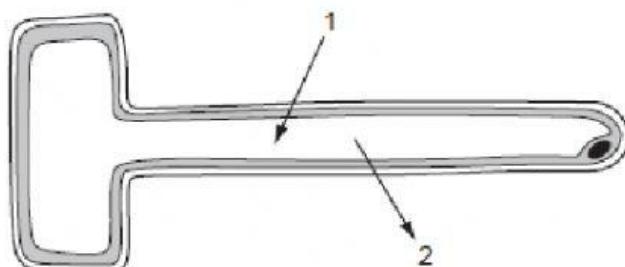
3. Which adaptations of a root hair cell make it suitable for water uptake?

[Nov 2010, Q7]

	Partially permeable cell membrane	Surface area to volume ratio of the cell
A	Absent	High
B	Absent	Low
C	Present	High
D	Present	Low

4. The diagram shows a root hair.

[Nov 2010, Q8]



Which arrows show the direction in which it is **possible** for nitrate ions and water molecules to move?

	Nitrate ions	Water molecules
A	1 only	1 and 2
B	1 and 2	1 and 2
C	1 and 2	2 only
D	2 only	1 only

5. A human cheek cell and a spongy mesophyll cell from a leaf are examined under a microscope.

Which structures are seen in both cells?

[Nov 2011, Q1]

- A Cell membrane, nucleus and cytoplasm
- B Cell wall, cell membrane and nucleus
- C Cytoplasm, cell wall and cell membrane
- D Nucleus, cytoplasm and cell wall

6. Some processes which occur in flowering plants are listed.

[Nov 2012, Q1]

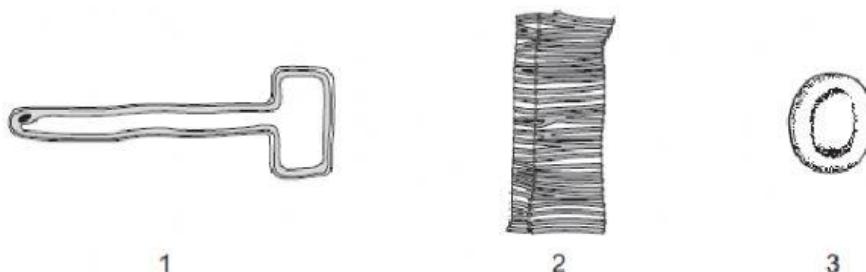
- 1 ion uptake by root hairs
- 2 water uptake by root hairs
- 3 ion movement up the xylem in the stem
- 4 water vapour loss by the mesophyll cells of the leaves

Which processes are controlled by cell surface membranes?

- A 1 only
- B 1 and 3
- C 2 only
- D 3 and 4

7. The diagram shows three cellular structures.

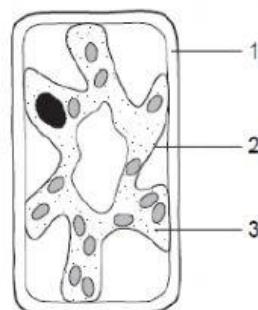
[Nov 2014, Q1]



Which statements about these cells are correct?

	1	2	3
A	Adapted to carry oxygen	Lacks a nucleus	Adapted to carry water
B	Adapted to carry water	Lacks a nucleus	Is in contact with the soil
C	Is in contact with the soil	Adapted to carry water	Adapted to carry oxygen
D	Is in contact with the soil	Is in contact with the soil	Lacks a nucleus

8. The diagram shows a typical plant cell after being placed in a concentrated salt solution for ten minutes.



Which numbered structures are partially permeable?

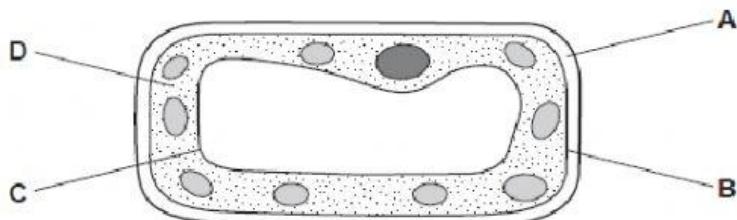
[June 2008, Q1]

- A 1 and 2 only
- B 1 and 3 only
- C 1 only
- D 2 only

9. The diagram shows a plant cell.

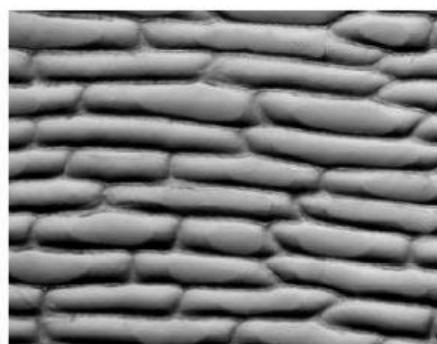
[June 2009, Q1]

Which structure controls the passage of substances into and out of the cell?



10. The photomicrograph shows onion epidermis.

[June 2010, Q11]

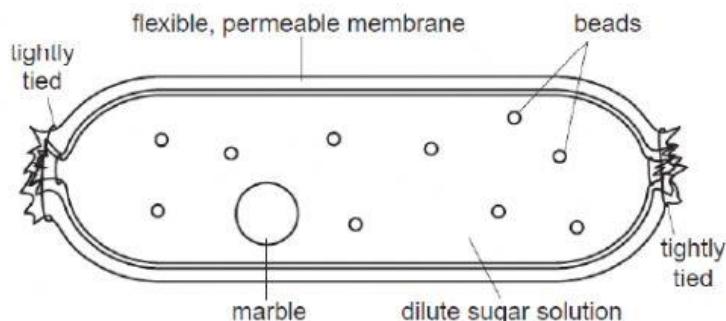


Which term describes this onion epidermis?

- A Cell
- B Organ
- C Organ system
- D Tissue

Structured Questions:

1. A student was asked to make a model of a plant cell. She took a length of tubing made from a substance that allows only water molecules to pass through and enclosed it in a flexible permeable membrane as shown in Fig. 1.1.



[Nov 2011, Q1]

Fig. 1.1

(a) Name the structures found in a plant mesophyll cell that are best represented by the following items used in her model:

the marble

the beads _____

the tubing _____

(b) State a structure found in a plant cell that is **not** represented in the student's model.

[1]

(c) The student then placed her model into a concentrated sugar solution for half an hour.

State and explain the similarities between what might happen to her model during that time and what would happen to a plant cell placed in the same solution.

[6]

[Total: 10]

2. Describe the functions in a plant of
(a) Cell walls,
(b) Cell membranes.

[Nov 2008, Q8]

[5]

[5]

[Total: 10]