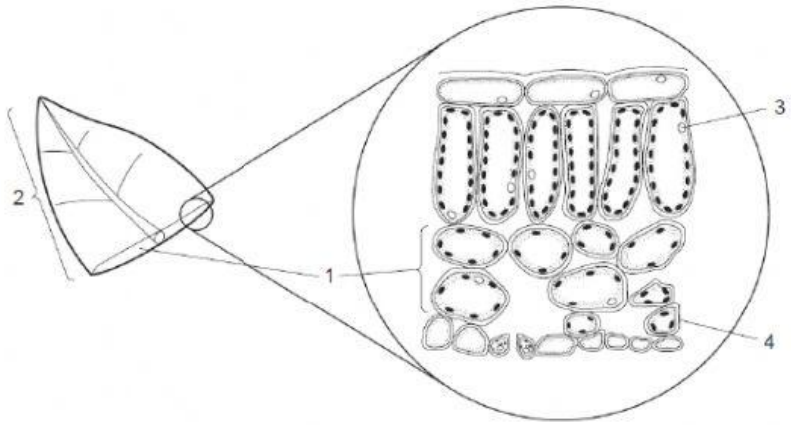
**NAME:** **CLASS:** **DATE:**

**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?

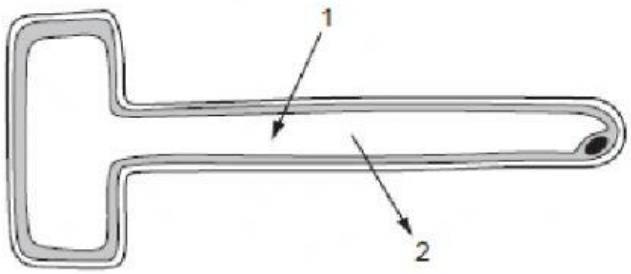
| | Type of cell | Reason |
|---|---|---|
| A | Animal cell | Outer layer is the cell membrane |
| B | Bacterium | No chromosomes are visible |
| C | Plant cell | Cytoplasm is visible |
| D | Plant cell | Cell wall is visible |

LIVEWORKSHEETS

**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



LIVEWORKSHEETS

**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]

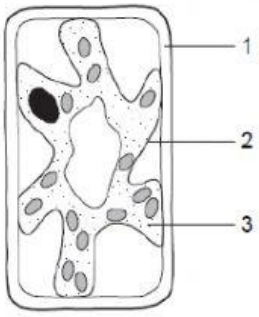


1 2 3

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]

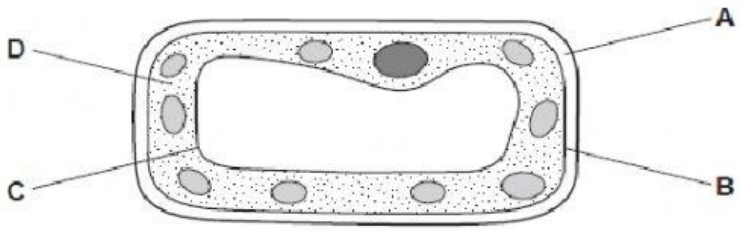
A 1 and 2 only B 1 and 3 only C 1 only D 2 only



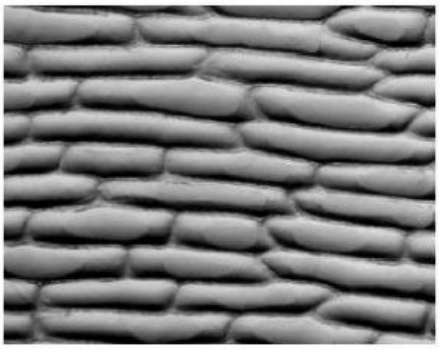
LIVEWORKSHEETS

**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



LIVEWORKSHEETS

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]

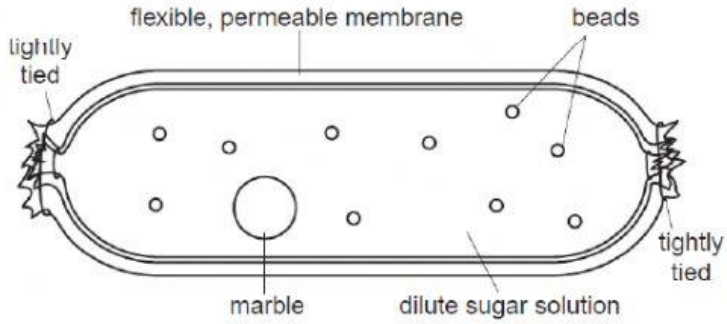



**Fig. 1.1**

(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 _____ [3]

(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.

_____

_____

_____

_____

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_____

_____

_____

_____

_____

_____

[6]

[Total: 10]



LIVEWORKSHEETS

2. Describe the functions in a plant of [Nov 2008, Q8]

(a) Cell walls, [5]

(b) Cell membranes. [5]

[Total: 10]



LIVEWORKSHEETS