

AQA - Cell Biology – GCSE Biology Paper 1

1. **June/2021/Paper_1F/No.1**

0 1

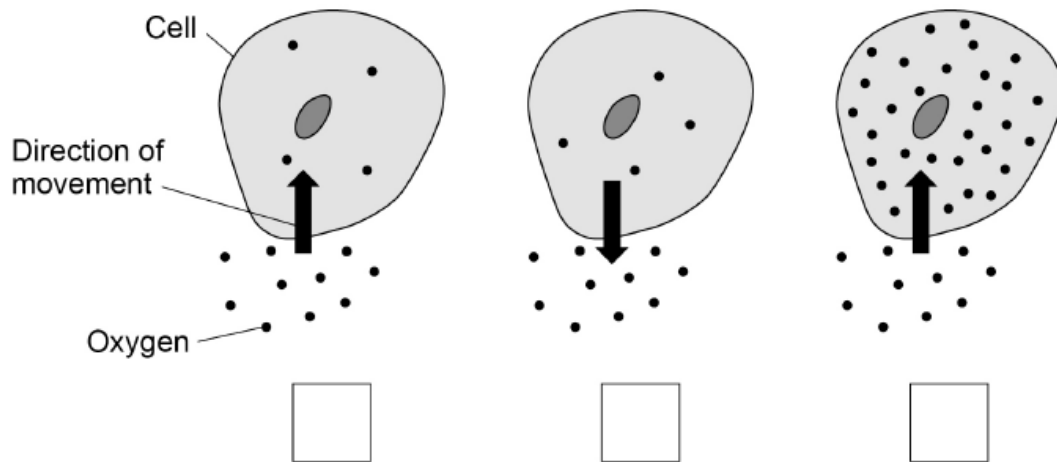
This question is about cells.

0 1 . 1

Which diagram shows oxygen moving by diffusion?

[1 mark]

Tick (✓) one box.



0 1 . 2

Complete the sentences.

[3 marks]

Choose answers from the box.

carbon dioxide	chlorophyll	energy
light	mineral ions	water

Plant cells absorb substances from the soil.

Plant cells use osmosis to absorb _____.

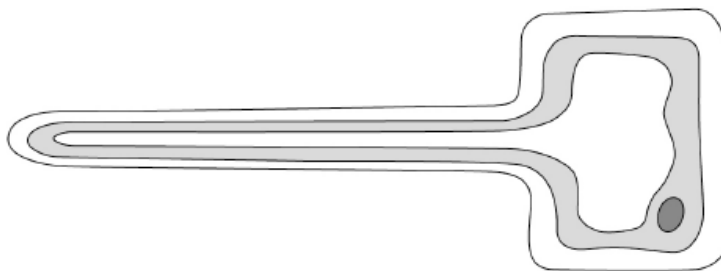
Plant cells use active transport to absorb _____.

Active transport moves substances against the concentration gradient and

needs _____.

Figure 1 shows a specialised cell that absorbs substances from the soil.

Figure 1



0 1 . 3 Name the type of specialised cell in **Figure 1**.

[1 mark]

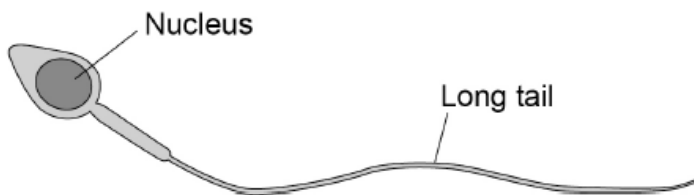
0 1 . 4 Describe how the cell in **Figure 1** is adapted to increase the absorption of substances from the soil.

[1 mark]

A sperm cell is another specialised cell.

Figure 2 shows a sperm cell.

Figure 2



0 1 . 5

Draw **one** line from each feature to how the feature helps the sperm cell carry out its function.

[2 marks]

Feature of sperm cell

How the feature helps

Contains a nucleus

To break the outer layer of the egg

To help the cell to swim to the egg

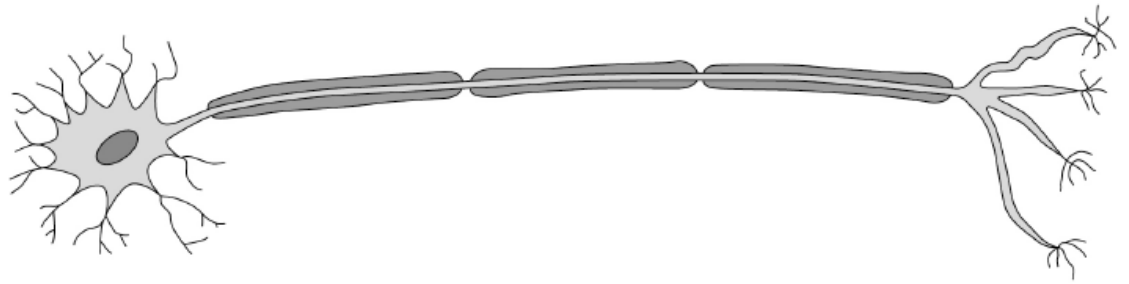
Has a long tail

To provide the chromosomes for fertilisation

To release energy

Figure 3 shows another specialised cell.

Figure 3



0 1 . 6

Name the type of cell in **Figure 3**.

Describe **one** feature of the cell that helps it to carry out its function.

[2 marks]

Name of the cell _____

Feature of the cell _____

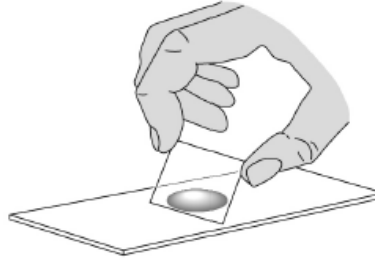
2. June/2021/Paper_1F/No.7

0 7

A student prepared some animal cells to view using a microscope.

Figure 14 shows the student preparing the cells.

Figure 14



0 7 . 1

Name **two** pieces of laboratory equipment the student could have used to prepare cells to view using a microscope.

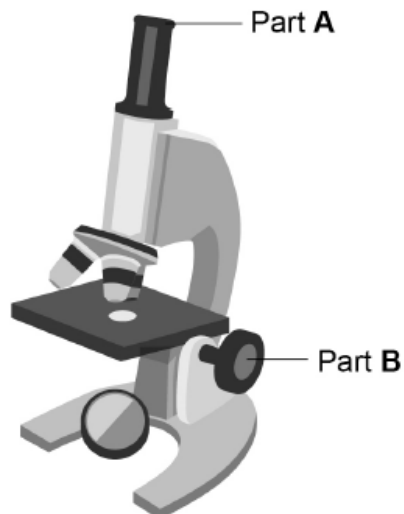
[2 marks]

1 _____

2 _____

Figure 15 shows the student's light microscope.

Figure 15



0 7 . 2 Name part A.

[1 mark]

0 7 . 3 What is the function of part B?

[1 mark]

0 7 . 4 The student tried to look at the cells using the microscope.

Suggest **one** reason why the student could **not** see any cells when looking through part A.

[1 mark]

0 7 . 5 Red blood cells are specialised animal cells.

Compare the structure of a red blood cell with the structure of a plant cell.

[6 marks]

0 7 . 6 When placed into a beaker of water:

- a red blood cell bursts
- a plant cell does **not** burst.

Explain why the red blood cell bursts but the plant cell does **not** burst.

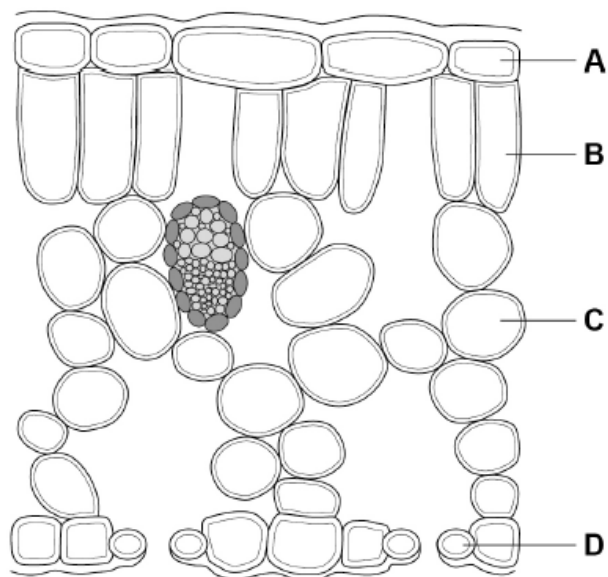
[2 marks]

3. June/2021/Paper_1H/No.6

0 6

Figure 9 shows a cross section of a leaf.

Figure 9



0 6 . 1

Which cell is most transparent?

[1 mark]

Tick (✓) one box.

A B C D

0 6 . 2

Which cell structure in a leaf mesophyll cell is **not** found in a root hair cell?

[1 mark]

Plants lose water through their leaves.

0 6 . 3 Name the cells in a leaf that control the rate of water loss.

[1 mark]

0 6 . 4 Water is taken in by the roots, transported up the plant and lost from the leaves.

Which scientific term describes this movement of water?

[1 mark]

0 6 . 5 Which change would decrease the rate of water loss from a plant's leaves?

[1 mark]

Tick (✓) **one** box.

Increased humidity

Increased light intensity

Increased density of stomata

Increased temperature

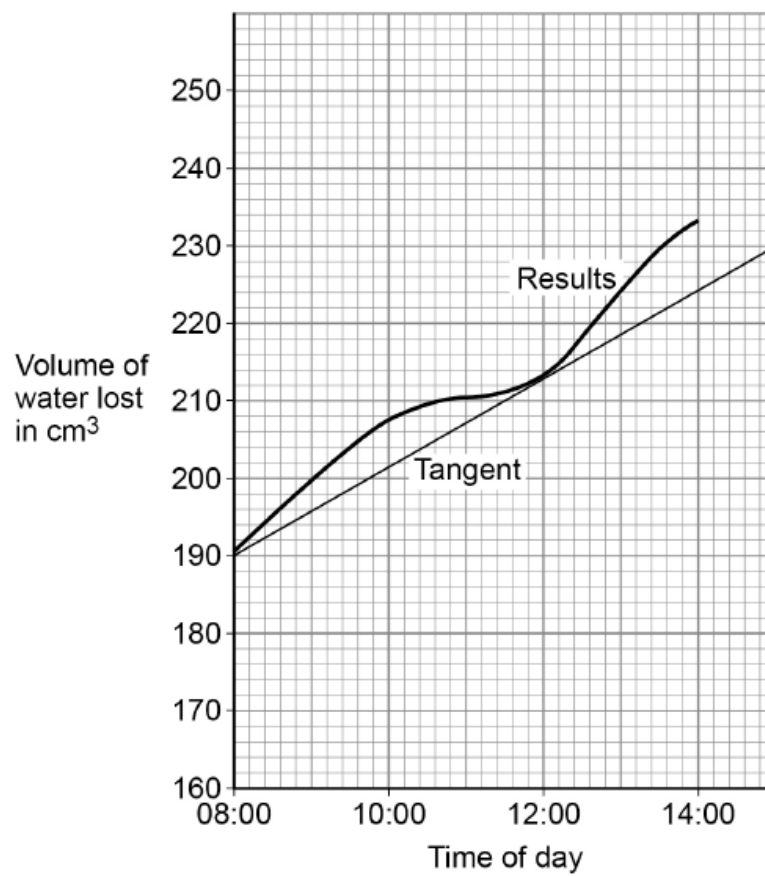
0 6 . 6

Compare the structure and function of xylem tissue and phloem tissue.

[6 marks]

Figure 10 shows the total volume of water lost from a plant over 6 hours.

Figure 10



0 6 . 7 Determine the rate of water loss at 12:00

Use the tangent on **Figure 10**.

Give your answer:

- in cm^3 per minute
- in standard form.

[4 marks]

Rate of water loss = _____ cm^3 per minute

0 6 . 8 The rate of water loss at midnight was much lower than at 12:00

Explain why.

[2 marks]
