B1 L5 Specialised cells: Exam questions worksheet

AQA GCSE Combined Science: Trilogy (8464) and Biology (8461)
Biology Paper 1 · Topic B1 Cell biology

Name _____ Class _____

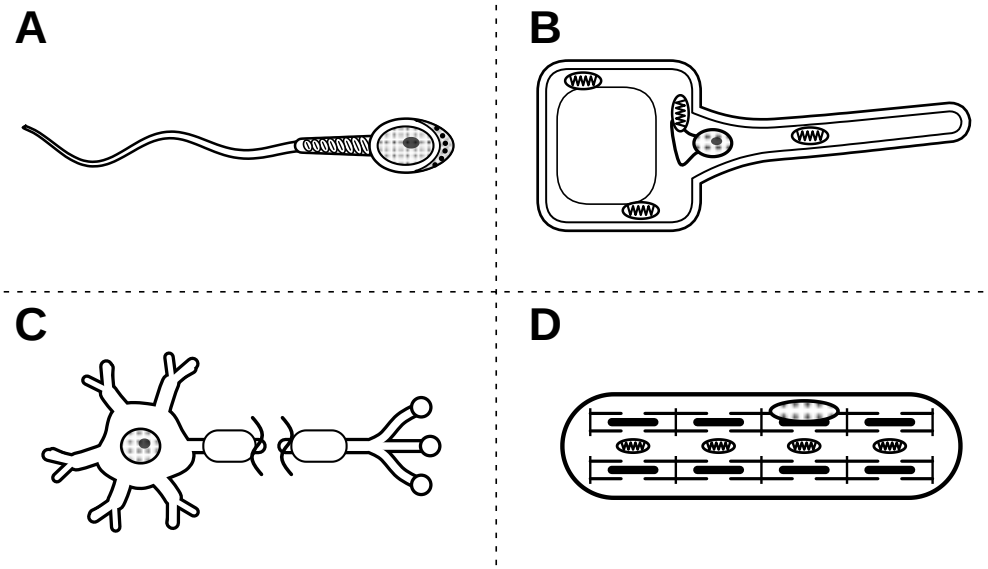
Total: ..... / 20

Instructions
- Answer **all** questions in the spaces provided.
- Use black ink or black ball-point pen.
- The marks for each question are shown in brackets.
- In calculations, show clearly how you work out your answer.
- Time: about 25 minutes.

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0 1 **Figure 1** shows four specialised cells, **A**, **B**, **C** and **D**.

Figure 1



The cells are not drawn to the same scale.

0 1 . 1 Name cells **A**, **B** and **C**. [3 marks]

Choose answers from the box.

muscle cell	nerve cell	phloem cell
root hair cell	sperm cell	xylem cell

A .....

B .....

C .....

Do not write outside the box

0 1 . 2 Cell **D** contains protein fibres that slide over each other. [1 mark]

What is the job of cell **D**?

Tick (✓) **one** box.

- To absorb water from the soil ☐
- To carry electrical impulses ☐
- To contract to cause movement ☐
- To fertilise an egg cell ☐

0 2 Root hair cells take in water and mineral ions from the soil.

0 2 . 1 A root hair is 0.6 mm long. [1 mark]

1 mm = 1000 µm

What is the length of the root hair in micrometres (µm)?

Length = ... µm

0 2 . 2 The root hair is 12 µm wide. [2 marks]

Calculate how many times longer the root hair is than it is wide.

..... times

0 2 . 3 Root hair cells have no chloroplasts. [1 mark]

Suggest why.

.....

.....

Turn over for the next question

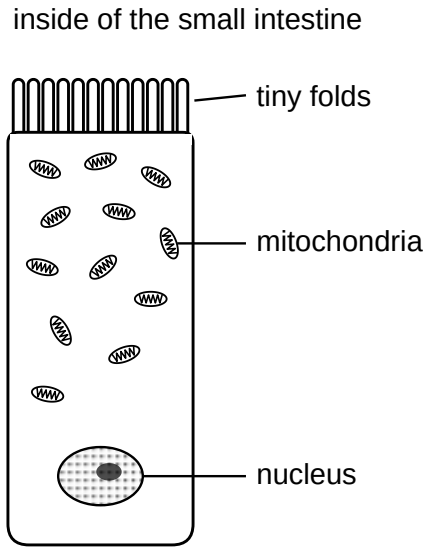
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0 3 **Figure 2** shows a cell from the lining of the small intestine.

This cell absorbs digested food molecules, such as glucose, from the inside of the small intestine.

Some of the molecules are taken into the cell by active transport. Active transport needs energy from respiration.

Figure 2



0 3 . 1 The surface of the cell has many tiny folds. [2 marks]

Explain how the folds help the cell to do its job.

.....

.....

.....

0 3 . 2 The cell has many mitochondria. [2 marks]

Explain why.

.....

.....

.....

Turn over for the next question

Do not write outside the box

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0 4 **Describe** how cell differentiation in animals is different from cell differentiation in plants. [2 marks]

0 5 When you decide to move your arm, nerve cells carry electrical impulses to the muscle cells in your arm. [6 marks]

The muscle cells contract.

Explain how nerve cells and muscle cells are adapted to do their jobs.

Do not write outside the box

END OF QUESTIONS

There are no more questions in this paper. Original practice paper © sciencegcse.co.uk – free to use for non-commercial education. Not an AQA paper.