

Topic Test: OxfordAQA
International GCSE Biology 9201
Organisation

Name: _____

Class: _____

Date: _____

Time: **55 minutes**

Marks: **55 marks**

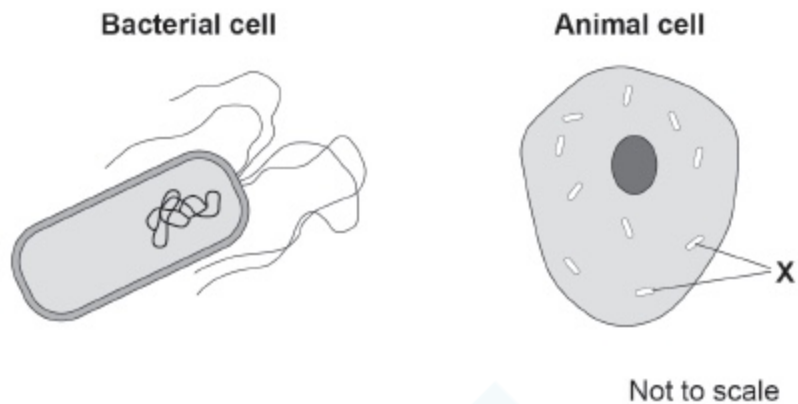
Comments:

1

Organisms are made from cells.

Figure 1 shows two types of cell.

Figure 1



(a) Complete the table.

Use information from **Figure 1**.

Tick each box if the cell has that part.

Cell part	Bacterial cell	Animal cell
Cell wall		
Nucleus		
Cell membrane		
Cytoplasm		

(4)

- (b) The structures labelled **X** in Figure 1 are where most of the energy is released in respiration.

What is the name of **X**?

Tick **one** box.

Chloroplasts

☐

Mitochondria

☐

Plasmids

☐

Ribosomes

☐

(1)

- (c) Name **one** structure that is in a plant cell but **not** in an animal cell.

(1)

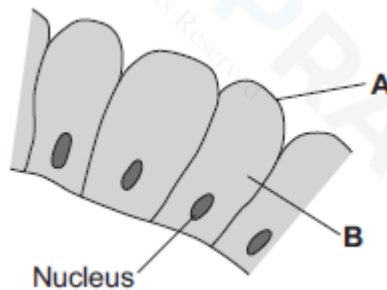
- (d) Give the function of the structure you named in question (c).

(1)

(Total 7 marks)

2

The image below shows some cells in the lining of the stomach.



- (a) (i) Use words from the box to name structures **A** and **B**.

cell membrane	chloroplast	cytoplasm	vacuole
---------------	-------------	-----------	---------

A _____

B _____

(2)

- (ii) What is the function of the nucleus?

Tick (✓) **one** box.

To control the activities of the cell

☐

To control movement of substances into and out of the cell

☐

To release energy in respiration

☐

(1)

- (b) Draw **one** line from each part of the human body to its correct scientific name.

Part of human body

Scientific name

Layer of cells lining the stomach

An organ

Stomach

An organism

Mouth, stomach, intestines,
liver and pancreas

An organ system

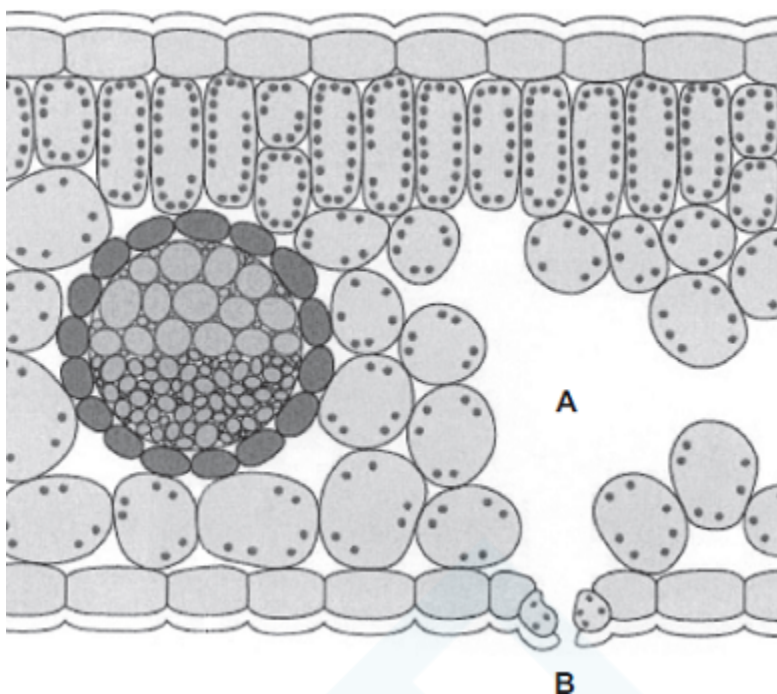
A tissue

(3)

(Total 6 marks)

3

The diagram shows a section through a plant leaf.



- (a) Use words from the box to name **two** tissues in the leaf that transport substances around the plant.

epidermis

mesophyll

phloem

xylem

_____ and _____

(1)

- (b) Gases *diffuse* between the leaf and the surrounding air.

- (i) What is *diffusion*?

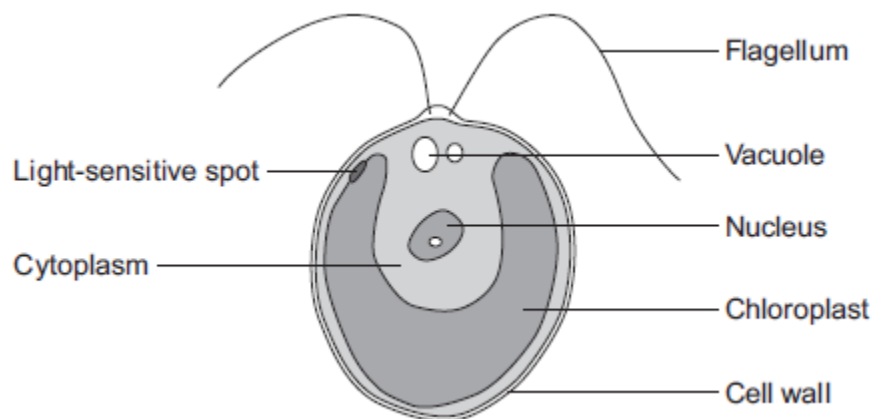
(2)

- (ii) Name **one** gas that will diffuse from point **A** to point **B** on the diagram on a sunny day.

(1)

(Total 4 marks)

The diagram below shows a single-celled alga which lives in fresh water.



(a) Which part of the cell labelled above:

(i) traps light for photosynthesis

(1)

(ii) is made of cellulose?

(1)

(b) In the freshwater environment water enters the algal cell.

(i) What is the name of the process by which water moves into cells?

(1)

(ii) Give the reason why the algal cell does not burst.

(1)

(c) (i) The alga can photosynthesise.

Complete the **word** equation for photosynthesis.

water + _____ $\xrightarrow{\text{Light energy}}$ _____ + oxygen

(2)

- (ii) The flagellum helps the cell to move through water. Scientists think that the flagellum and the light-sensitive spot work together to increase photosynthesis.

Suggest how this might happen.

(2)

- (d) Multicellular organisms often have complex structures, such as lungs, for gas exchange.

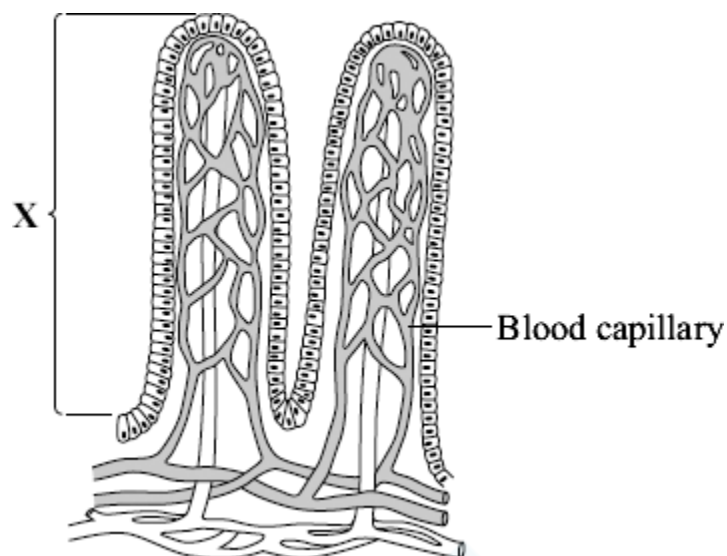
Explain why single-celled organisms, like algae, do **not** need complex structures for gas exchange.

(3)

(Total 11 marks)

5

The diagram shows part of the lining of the small intestine.



(a) (i) Name structure X.

Draw a ring around **one** answer.

alveolus

thorax

villus

(1)

(ii) Choose **three** ways in which structure X is adapted to help the absorption of soluble food.

Tick (✓) **three** boxes.

It is ventilated.

☐

Its outer surface is one cell thick.

☐

It has a large surface area.

☐

It contains a layer of muscle.

☐

It has a good blood supply.

☐

Its cells contain haemoglobin.

☐

(3)

- (b) Name the process by which soluble food enters the blood.

Draw a ring around **one** answer.

diffusion

fermentation

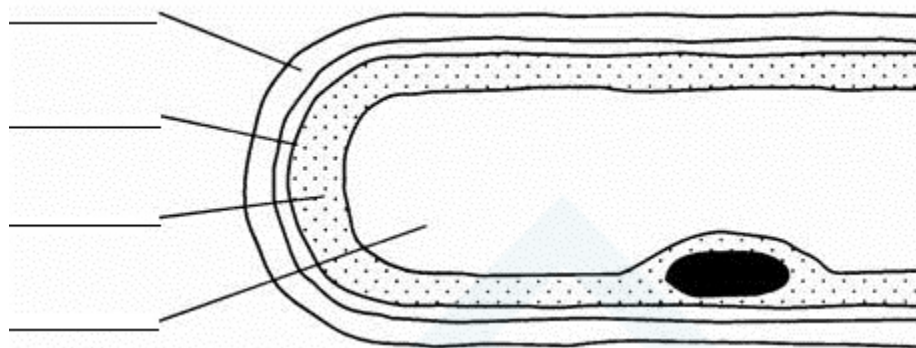
transpiration

(1)

(Total 5 marks)

6

The drawing shows part of a root hair cell.



- (a) Use words from the list to label the parts of the root hair cell.

cell membrane

cell wall

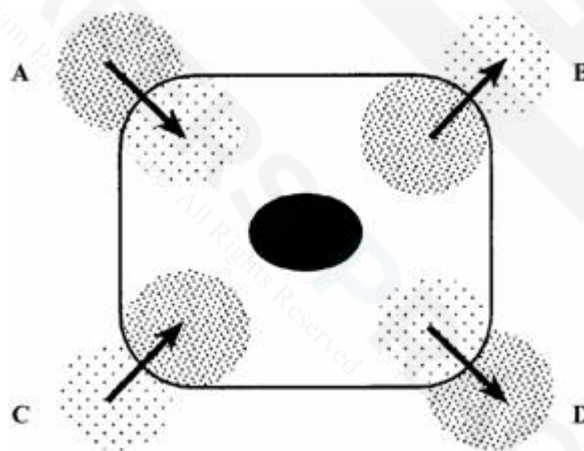
cytoplasm

nucleus

vacuole

(4)

- (b) The diagram shows four ways in which molecules may move into and out of a cell. The dots show the concentration of molecules.



The cell is respiring aerobically.

Which arrow, **A**, **B**, **C** or **D** represents:

(i) movement of oxygen molecules; _____

(ii) movement of carbon dioxide molecules? _____

(2)

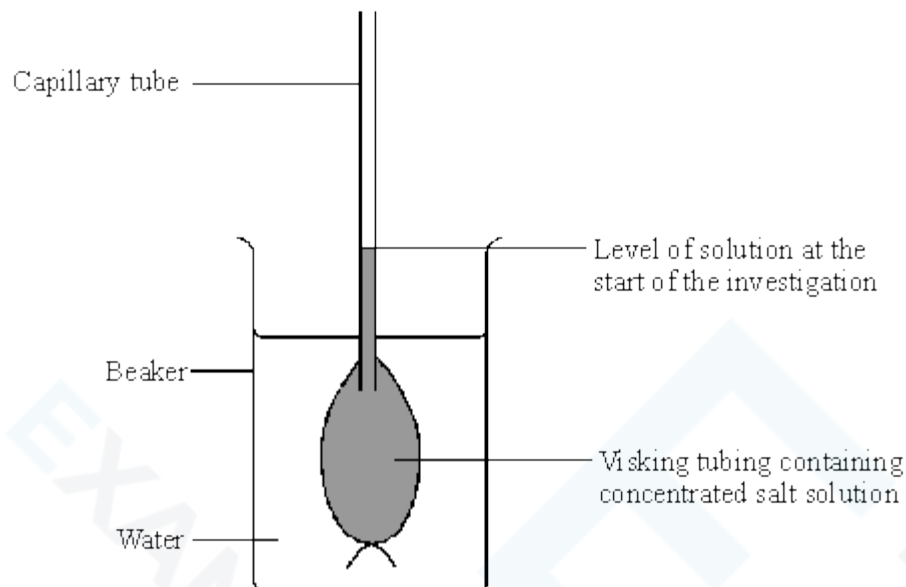
- (c) Name the process by which these gases move into and out of the cell.

(1)

(Total 7 marks)

7

Some students set up the equipment below to investigate osmosis.



- (a) What is osmosis?

(3)

- (b) (i) What will happen to the water level in the capillary tube during the investigation because of osmosis?

(1)

- (ii) Use your knowledge of osmosis to explain why this happens.

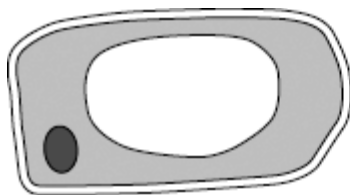
(2)

(Total 6 marks)

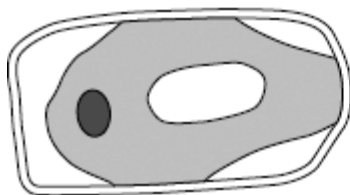
8

The diagram shows the same plant cell:

- after 1 hour in distilled water
- after 1 hour in strong sugar solution.



After 1 hour in
distilled water



After 1 hour in
strong sugar solution

- (a) Describe **two** ways in which the cell in the strong sugar solution is different from the cell in distilled water.

1. _____

2. _____

(2)

- (b) Explain how the differences between the cell in the strong sugar solution and the cell in distilled water were caused.

(2)

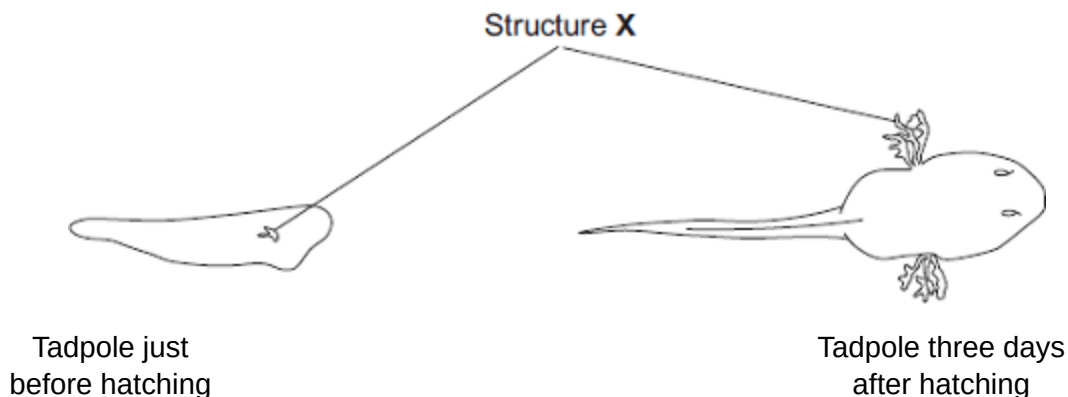
(Total 4 marks)

9

The young stages of frogs are called tadpoles. The tadpoles live in fresh water.

The drawings show a tadpole just before hatching and three days after hatching.

Structure X helps in the exchange of substances between the tadpole and the water.



- (a) Name **one** substance, other than food, that the tadpole needs to exchange with the water in order to grow.

(1)

- (b) Suggest how the changes in the tadpole shown in the drawings help it to survive as it grows larger.

You should **not** refer to movement in your answer.

To gain full marks you should refer to structure X.

(4)

(Total 5 marks)