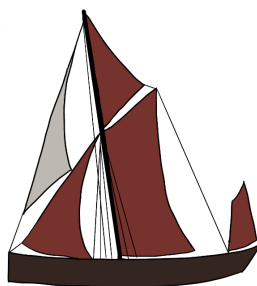

AQA

TRANSPORT ACROSS THE MEMBRANE

PAST PAPER QUESTIONS

Science Exams Sorted



Name:		
Mark: (34)	%	Grade:

2021

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AQA Transport Across the Membrane Past Paper Questions

1. Carbon dioxide moves out of an epithelial cell by diffusion.

What is diffusion?

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(2)

AQA 2017 Higher Paper 2 Q1 c

2. Some of the uptake of glucose in the small intestine occurs by active transport.

Describe the process of active transport.

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(2)

AQA 2017 Higher Paper 3 Q8 b

3. The table below shows information about four skin cells of an earthworm.

Cell	Percentage of oxygen	
	Outside cell	Inside cell
A	9	8
B	12	8
C	12	10
D	8	12

- a. Which cell has the smallest difference in percentage of oxygen between the outside and the inside of the cell?

Tick one box.

A		B		C		D	
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(1)

- b. Which cell will oxygen move into the fastest?

Tick one box.

A		B		C		D	
----------	--	----------	--	----------	--	----------	--

(1)

AQA 2018 Foundation Paper 1 Q6 (ii)

AQA Transport Across the Membrane Past Paper Questions

4. Plants move mineral ions:

- from a low concentration in the soil
- to a high concentration in the root cells.

What process do plants use to move these minerals ions into root cells?

Tick **one** box.

Active transport ☐

Diffusion ☐

Evaporation ☐

Osmosis ☐

(1)

AQA 2018 Specimen Higher Paper 1 Q1 (i)

5. After a meal rich in carbohydrates, the concentration of glucose in the small intestine changes.

The table below shows the concentration of glucose at different distances along the small intestine.

Distance along the small intestine in cm	Concentration of glucose in mol/dm ⁻³
100	50
300	500
500	250
700	0

a. At what distance along the small intestine is the glucose concentration highest?

..... cm

(1)

b. Use the data in the table above to plot a bar chart on the figure below.

Label the y-axis.

Choose a suitable scale.

AQA Transport Across the Membrane Past Paper Questions



(4)

- c. Describe how the concentration of glucose changes as distance increases along the small intestine.

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(2)

- d. Explain why the concentration of glucose in the small intestine changes between 100 cm and 300 cm.

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(2)

AQA Transport Across the Membrane Past Paper Questions

- e. Explain why the concentration of glucose in the small intestine changes between 300 cm and 700 cm.

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(3)

AQA 2018 Specimen Foundation Paper 1 Q7

6. Cells, tissues and organs are adapted to take in different substances and get rid of different substances.

The table below shows the concentration of four ions outside cells and inside cells.

Ion	Concentration outside cells in mmol per dm ³	Concentration inside cells in mmol per dm ³
Sodium	140	9
Potassium	7	138
Calcium	2	27
Chloride	118	3

- a. Use information from Table 1 to complete the following sentences.

Sodium ions will move into cells by the process
of

Potassium ions will move into cells by the process
of

(2)

Some students investigated the effect of the different concentrations of sugar in four drinks, A, B, C and D, on the movement of water across a partially permeable membrane.

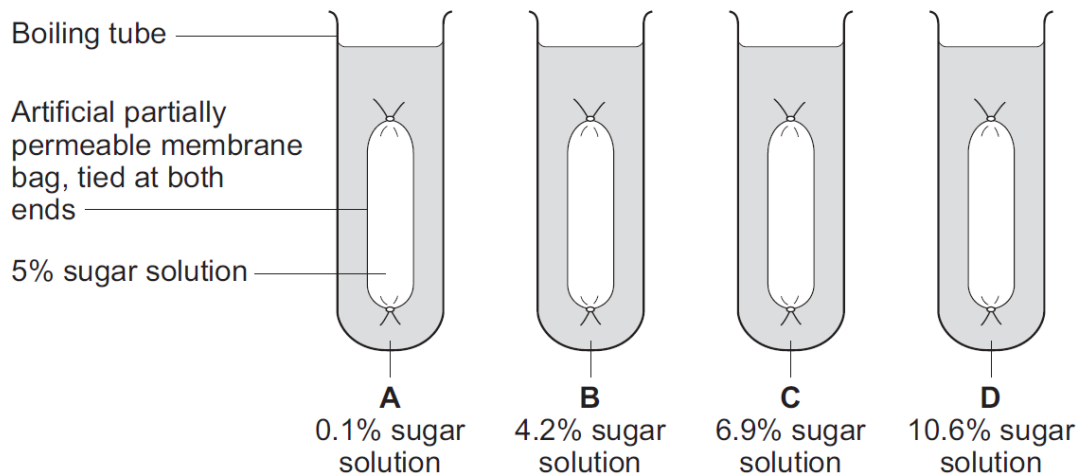
The students:

- made four bags from artificial partially permeable membrane
- put equal volumes of 5% sugar solution in each bag
- weighed each bag containing the sugar solution

AQA Transport Across the Membrane Past Paper Questions

- placed one bag in each of the drinks, A, B, C and D
- after 20 minutes removed the bags containing the sugar solution and weighed them again.

The figure below shows how they set up the investigation.



- b. The bag in drink A got heavier after 20 minutes.

Explain why.

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(3)

- c. In which drink, A, B, C or D, would you expect the bag to show the smallest change in mass? Tick one box.

A	
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B	
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C	
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D	
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(1)

- d. Explain why you think the bag you chose in part (c) would show the smallest change.

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(2)

AQA Transport Across the Membrane Past Paper Questions

7. During breathing, oxygen moves into the blood.

a. Explain how oxygen moves into the blood.

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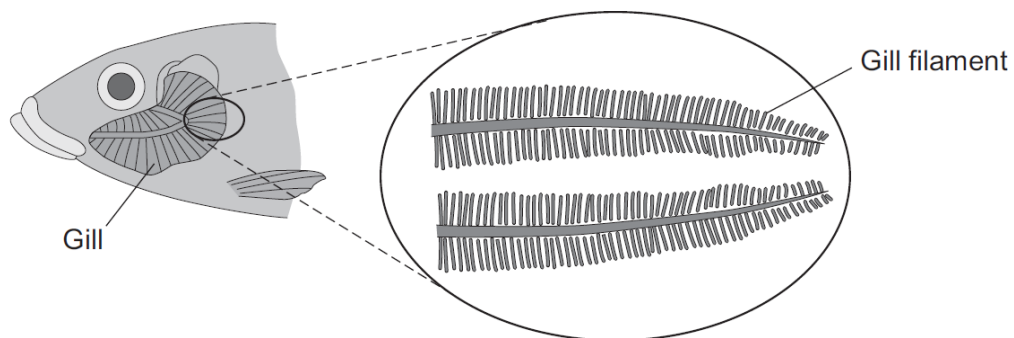
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(2)

b. The figure below shows a fish head and gill.



Fish absorb oxygen from the water. Oxygen is absorbed through the gills of the fish.
Explain one way in which the gills are adapted for rapid absorption of oxygen.

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(2)

AQA 2015 Higher Paper 3 Q6 b (i) & (ii)

8. Plant roots absorb water from the soil by osmosis.

What is osmosis?

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(3)

AQA 2014 Higher Paper 3 Q3 a