

Homework 1: Transport Across The Cell Membrane

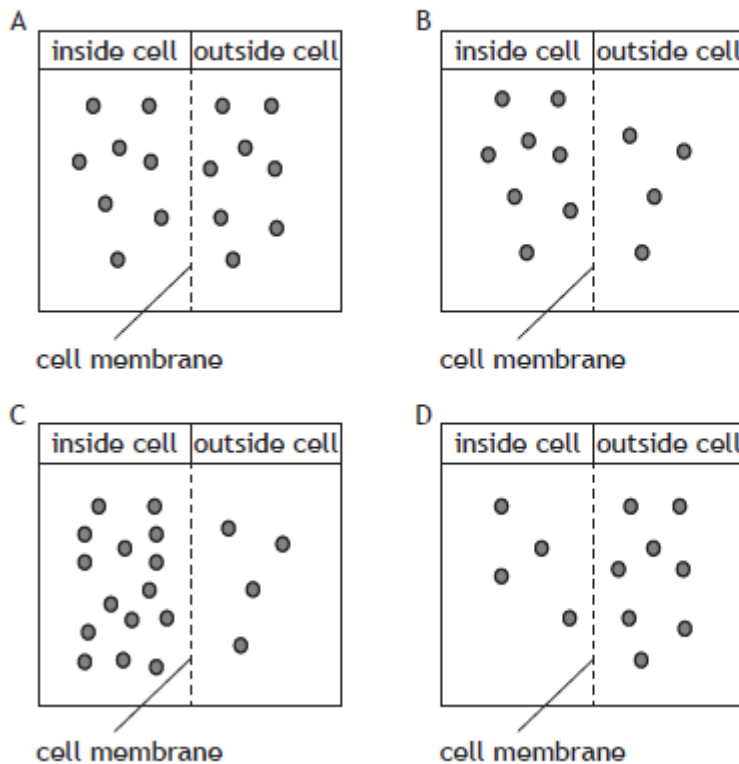
1.

Which line in the table below identifies the direction of diffusion of the three substances during muscle contraction?

	<i>Substance</i>		
	<i>Glucose</i>	<i>Oxygen</i>	<i>Carbon dioxide</i>
A	out	out	in
B	in	out	in
C	out	in	out
D	in	in	out

2.

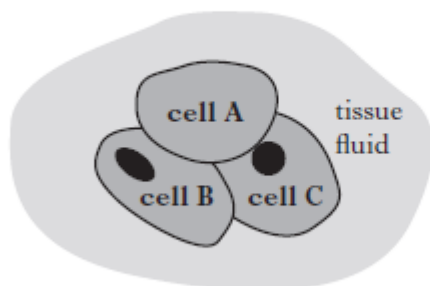
In the diagrams below, the circles represent molecules on either side of a cell membrane. In which of these diagrams would the molecules move into a cell by diffusion?



3.

Dissolved substances move from areas of high concentration to areas of lower concentration by the process of diffusion.

The following diagram represents three cells surrounded by tissue fluid.



The table below shows the relative concentrations of glucose, oxygen and carbon dioxide in the cells and tissue fluid.

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	<i>Relative concentrations of substance</i>		
	<i>glucose</i>	<i>oxygen</i>	<i>carbon dioxide</i>
Cell A	medium	medium	medium
Cell B	high	high	low
Cell C	low	low	high
Tissue fluid	high	high	low

(i) Which substance would diffuse from cell A to the tissue fluid?

1

(ii) From which of the following would cell A gain oxygen by diffusion?

Tick (✓) the correct boxes.

Cell B Cell C tissue fluid

1

(iii) Into which of the following would glucose diffuse from cell B?

Tick (✓) the correct boxes.

Cell A Cell C tissue fluid

1

(c) Which cell structure controls the movement of substances into and out of cells?

1