



PiXL GetIT!

GCSE Biology

Topic – Transport in cells

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All living cells need substances to move in and out.
There are 3 main ways you need to know:

- **Diffusion** *Means to spread*
- **Osmosis** *In biology osmo usually links to water*
- **Active transport** *Active implies that energy is needed*

Transport	Spreading out of particles from an area of higher concentration to an area of lower concentration
Diffusion	Allows some particles through and not others, depending on size
Osmosis	The movement of dissolved molecules into or out of a cell.
Active transport	Substances move from a more dilute solution to a more concentrated solution. This requires energy.
Concentration	Diffusion of water from dilute solution to concentrated solution through a partially permeable membrane
Concentration gradient	Difference in concentration between two areas
Selectively permeable	These cover the many gill filaments and increase the surface area.
Cell membrane	Thin layer around a cell controlling the substances passing in and out
Villi	The amount of substance in a solution
Lamellae	Small folds within the small intestine that increase the surface area.

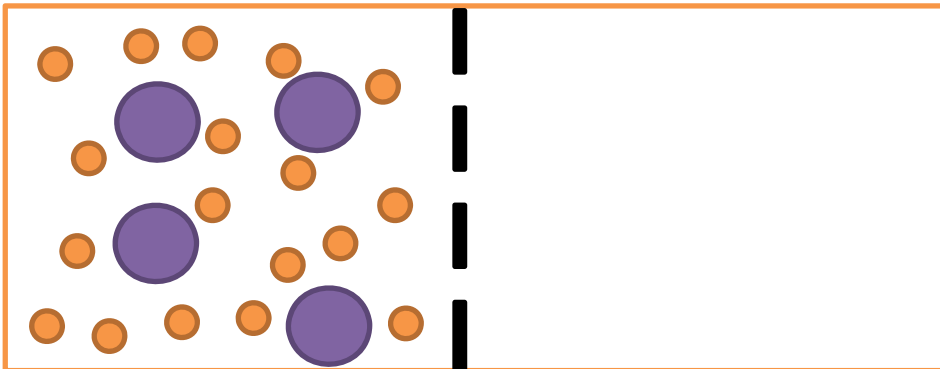
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Lamellae	These cover the many gill filaments and increase the surface area.

Complete the diagrams to show the movement of the molecules in each type of transport

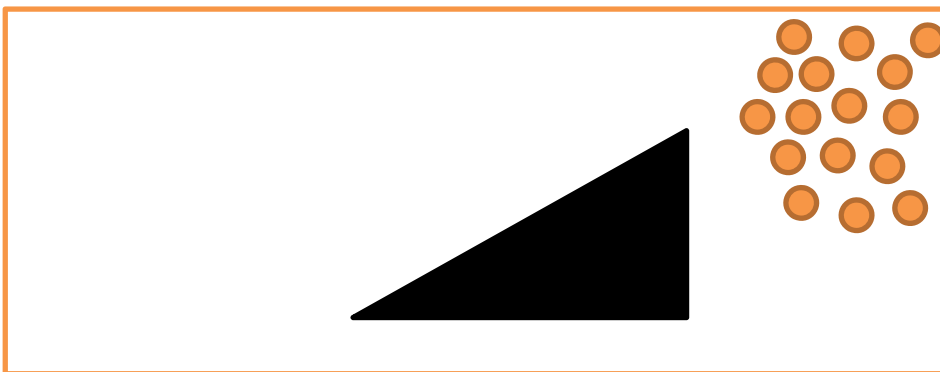
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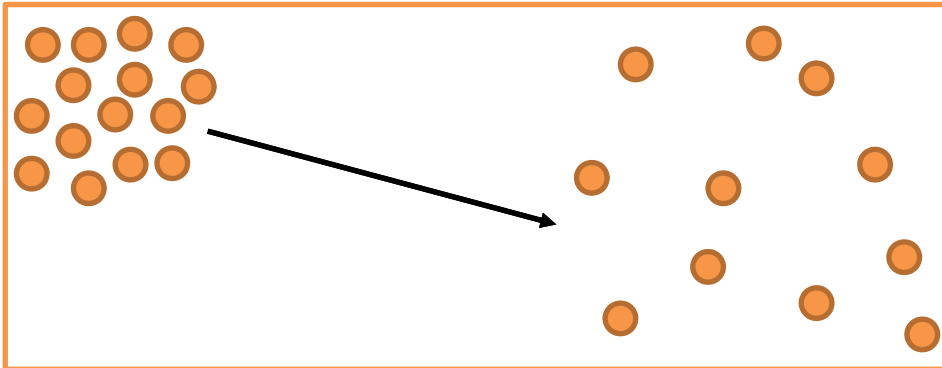
HINT: Moves from a high concentration to low concentration



HINT: Involves only water and a partially permeable membrane

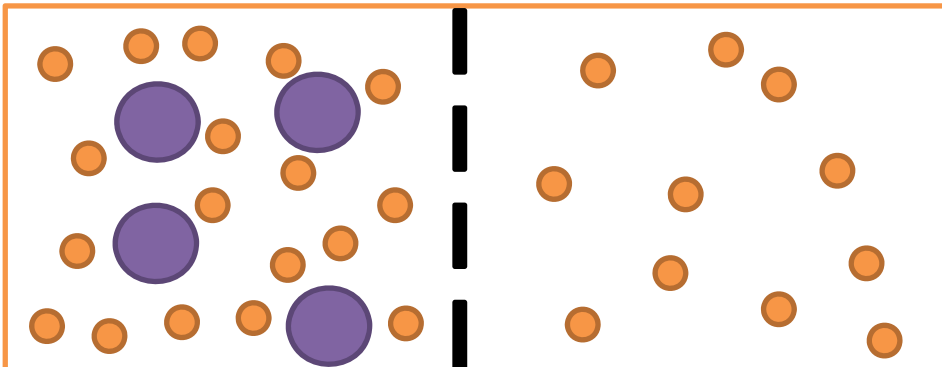


HINT: Moves from a low concentration to a high concentration and needs energy



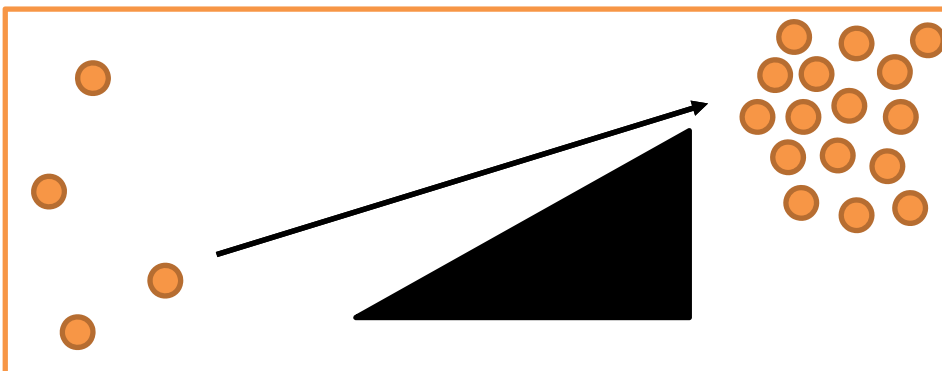
Diffusion

HINT: Moves from a high concentration to low concentration



Osmosis

HINT: Involves only water and a partially permeable membrane



Active transport

HINT: Moves from a low concentration to a high concentration and needs energy

True or false quiz!

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1. The movement of molecules from a high concentration to a low concentration is called diffusion.
2. The movement of water molecules from an area of low concentration to a high concentration is called osmosis.
3. Active transport moves against a concentration gradient.
4. Active transport needs energy.
5. Diffusion occurs in the lungs and small intestine.
6. Osmosis occurs in the large intestine and in the roots of plants.
7. A concentration gradient is the difference between 2 concentrations.
8. In diffusion the molecules move against the concentration gradient.
9. In osmosis the molecules move against the concentration gradient.
10. Osmosis involves a partially permeable membrane.

Self assessment

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Answers

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