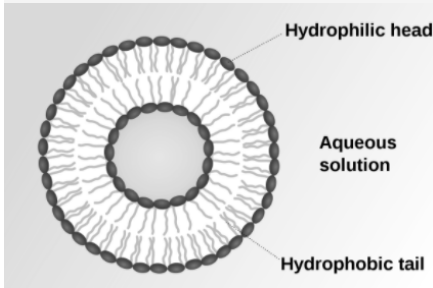


Vesicular Transport

- Active transport process
- Vesicles: small spheres a membrane
- Function in movement of material
- Occurs when larger molecules or big clumps of material need to be transported
- Endocytosis & Exocytosis

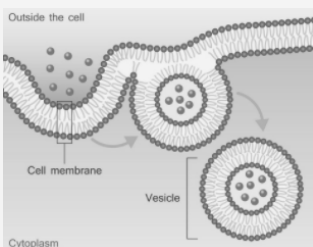
Vesicular Transport- image



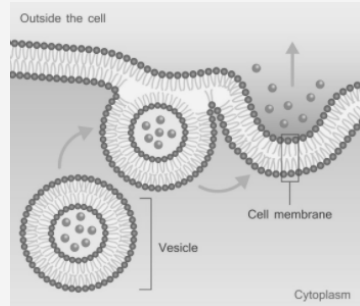
ENDOCYTOSIS VS EXOCYTOSIS

endocytosis	exocytosis
"in"	"out"
Used for large molecules, clumps of food and even whole cells	Used to get rid of wastes or release valuable materials cells have made
Phagocytosis	ex) releasing hormones like dopamine
Pinocytosis	
Receptor - Mediated Endocytosis	

Endocytosis



Exocytosis



simple vs facilitated diffusion

simple diffusion	facilitated diffusion
unassisted	assisted by carrier proteins
occurs through the phospholipid bilayer	occurs through the membrane proteins
small and non polar molecules transported	large and polar molecules transported
rate of diffusion is directly proportional to the concentration gradient and membrane permeability of the solute molecule	rate depends on the carrier protein

Diffusion

In terms of molecules, explain what happens to a sugar cube when it is placed into a beaker of water.

The sugar cube dissolves in the water, the sugar molecules break apart and dissolve in the water which is a solvent and the sugar cube is the solute.

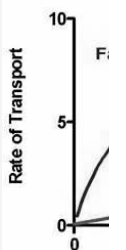
VOCAB WORDS

word	definition
solute	A substance that is dissolved in a solution.
solvent	In a solution, the substance in which the solute dissolves.
Solution	A mixture that forms when one substance (the solvent) dissolves another (the solute).
Selective permeability	A property of a plasma membrane that allows some substances to cross more easily than others.
Tonicity	The ability of a solution to cause a cell to gain or lose water; it depends partly on the concentration of non-penetrating solutes relative to the inside of a cell.

VOCAB WO

What is the relationship between rate diffusion and molecular weight?
What does heating water do to the rate diffusion of tea?
What environment do plant cells work best at and why
Hyponatrem

diffusion gr



Passive vs Active transport		Tonicity and Osmosis (cont)			Real life scenarios
active	passive	The water moves to the higher solute concentration inside the cell	The water has no net movement and nothing happens to the cells.	The water leaves the cell to the higher solute concentration	<p>What type of transport is it if you have a perfume bottle in a room and you not noticing it?</p> <p>Diffusion is used when small molecules with the same concentration move across the room more easily.</p> <p>If the amoeba was placed in a salt water solution it will shrink because the solute concentration is greater than in the amoeba. The water moves out to the salt water.</p> <p>I think they would use phagocytosis is taking in a large particle to digest inside the cell. Or pinocytosis because endocytosis is taking in small particles.</p> <p>Explain the difference between diffusion and osmosis. In diffusion all particles move across concentration gradients. In osmosis only water molecules move across the cell membrane from a dilute solution to a concentrated solution.</p>
requires energy in the form of ATP	does not require energy	cell swells and can burst	no change	cells shrink	
occurs AGAINST the concentration gradient	occurs DOWN the concentration gradient	<i>plant cells work best</i>	<i>human cells work best</i>		
from low to high concentration	from high to low concentration	low osmotic pressure	equal osmotic pressure	high osmotic pressure	
exocytosis	osmosis				
sodium-potassium pump	facilitated diffusion				
phagocytosis	diffusion				
endocytosis	aquaporin				

Tonicity and Osmosis

What is tonicity?

Measure of water pressure inside a cell compared to outside the cell.

Tonicity and Osmosis

hypotonic	isotonic	hypertonic
The concentration of the solute outside the cell are LOWER than inside the cell	The concentration of the solute outside the cell are EQUAL than inside the cell	The concentration of the solute outside the cell are HIGHER than inside the cell

Transport and Cell Membrane

What is cell transport?

Cell transport is the movement of substances across the cell membrane

What is the most important feature of the cell's phospholipid membrane?

The phospholipid bilayer because it's selectively permeable.

Why is it important that cell membranes help maintain the homeostasis within the cell?

So certain things that shouldn't be in our cells can get in and the things we do need can.

What is the function of transport proteins embedded in the cell membrane?

They move larger molecules in and out of the cell because they can't pass through the phospholipid bilayer

