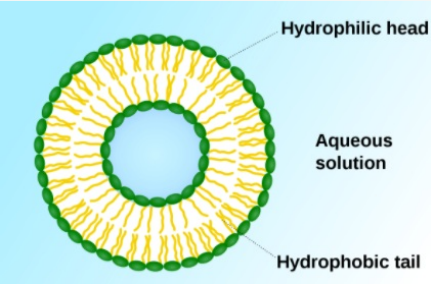
Osmosis/homeostasis/cell membrane transport Cheat Sheet

by ava (ava77may) via cheatography.com/132008/cs/27253/

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

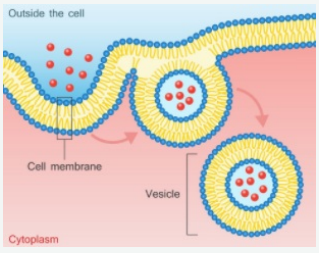
Vesicular Transport- image



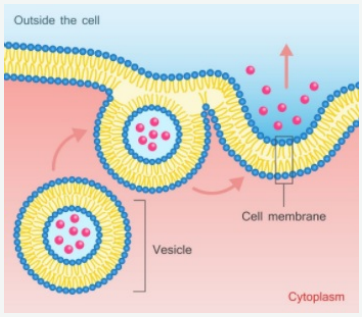
ENDOCYTOSIS VS EXOCYTOSIS

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 protiens
occurs through the phospholipid bilayer	occurs through the membrane protiens
small and non polar molecules transported	large and polar molecules transp-orted
rate of diffusion is directly proportional to the concentration gradient and he membrane permeability of the solute molecule	rate depends the carrier protein o

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	definiton
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 permea-bility	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-penet-rating solutes relative to the inside of a cell.

VOCAB WO

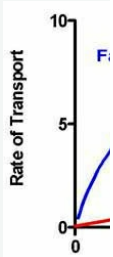
What is the relationship between rate diffusion and molecular weight?

What does heating wate do to the rat diffusion of tea?

What envior-nment do pla cells work be at and why

Hyponatrem

diffusion gr



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Passive vs Active transport

active	passive
requires energy in the form of ATP	does not require energy
occurs AGAINST the concentration gradient	occurs DOWN the concentration gradient
from low to high concentration	from high to low concentration
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

Tonicity and Osmosis (cont)

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
cell swells and can burst	no change	cells shrink
plant cells work best	*human cells work best*	
low osmotic pressure	equal osmotic pressure	high osmotic pressure

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 cant pass through the phospholipid bilayer

Real life scenarios

What type of transport is a
room and you not noticing

> Diffusion is used when s
molecules with the scen
across the room more a

If the amoeba was placed
shrink because the solute
is greater than in the amo
moves out to the salt wate

> I think they would use pl
ytosis is taking in a large
digest inside the cell. Or
because endocytosis is

Explain the difference bet

> in diffusion all particles r
tration gradients. In osm
molecules move across
membrane from a dilute
solution.