

Kidney Functions

1. Excrete nitrogenous waste (urea, ammonia)
2. Regulate blood volume (by excreting water) → osmoregulation.
3. Regulate pH levels in the body (controls levels of H^+ ions).
4. Help regulate blood pressure.
5. Helps to regulate RBC production (kidneys make a hormone that controls this).

DIFFUSION

What is it? → the movement of molecules from areas of HIGH concentration to areas of LOW concentration

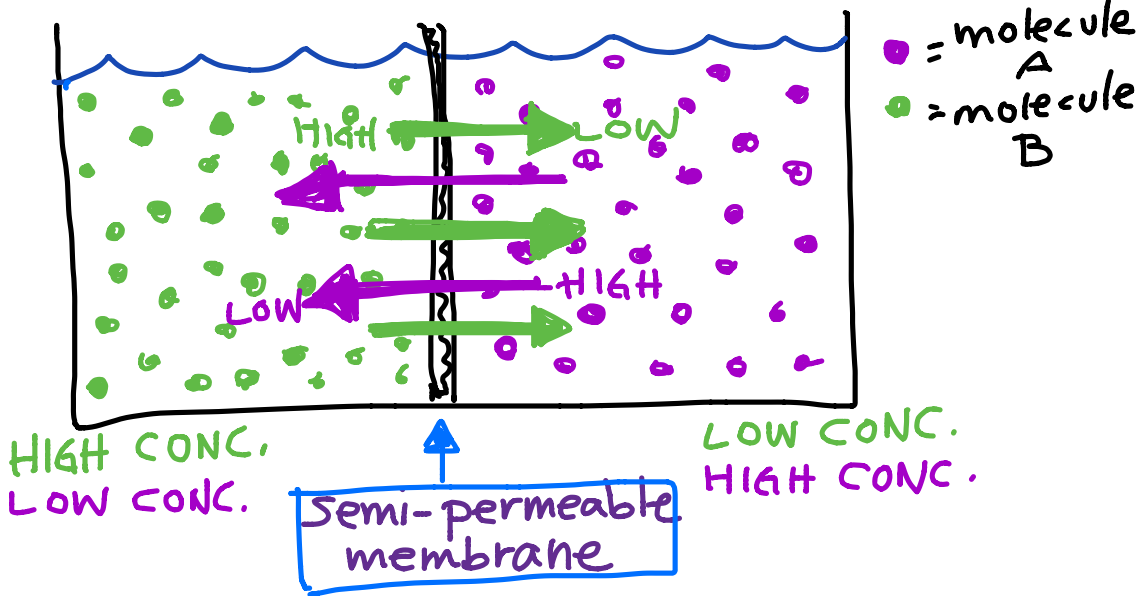
[This is a PASSIVE process
→ no energy put into it!]

What is osmosis? → the diffusion of WATER molecules specifically.

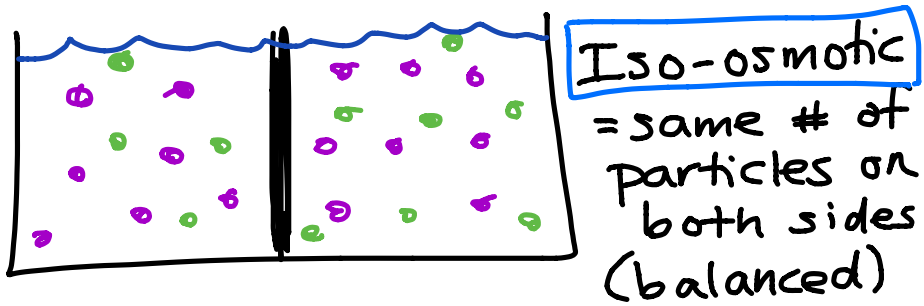
What is osmolarity? → the amount of particles in solution. High osmolarity = high concentration.

SOLUTION = solute + solvent
(usually solid) (usually water)

Diffusion/Osmosis Example

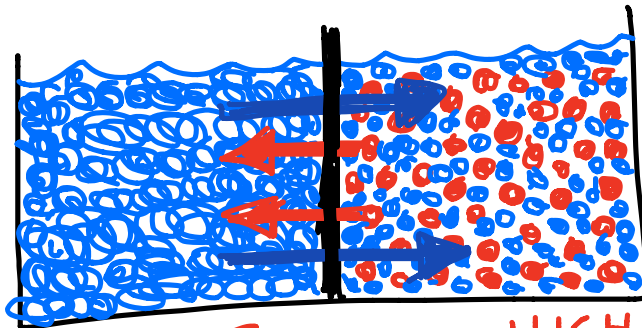


Time Passes ...



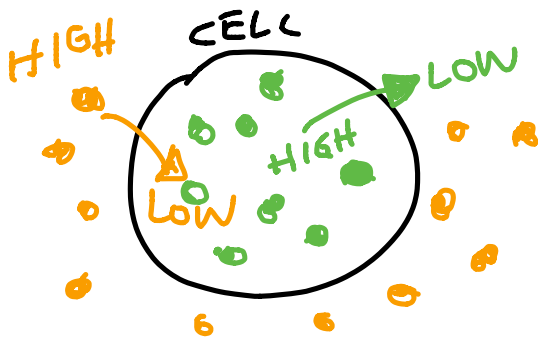
Osmosis

same picture as this!!

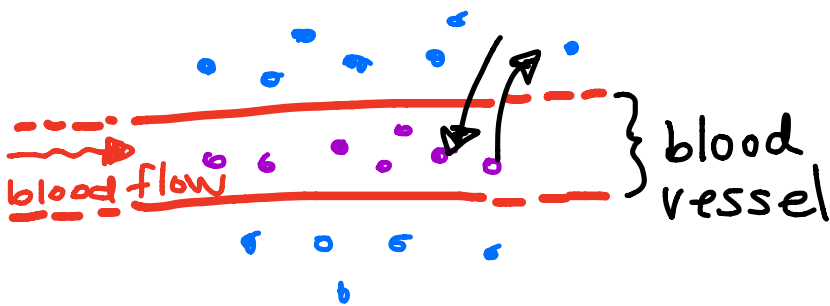


● = H₂O molecule (solvent)
● = solute

LOW CONC. ← HIGH CONC.
HIGH CONC. → LOW CONC.



Will the molecules diffuse in or out of the cell?



* Molecules will diffuse into or out of the blood vessel

