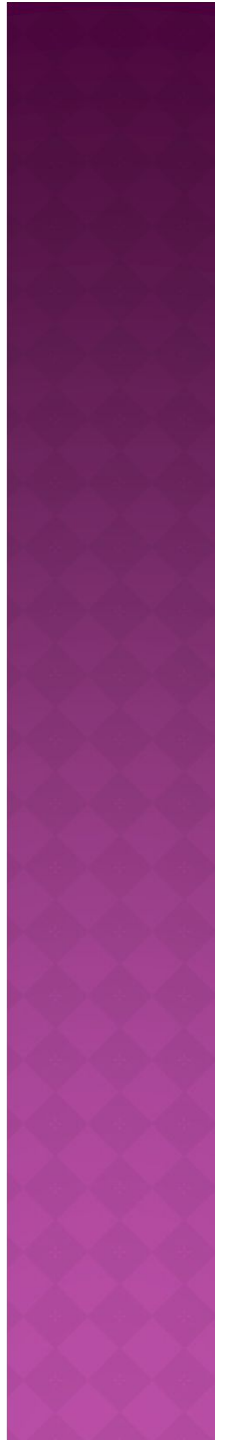
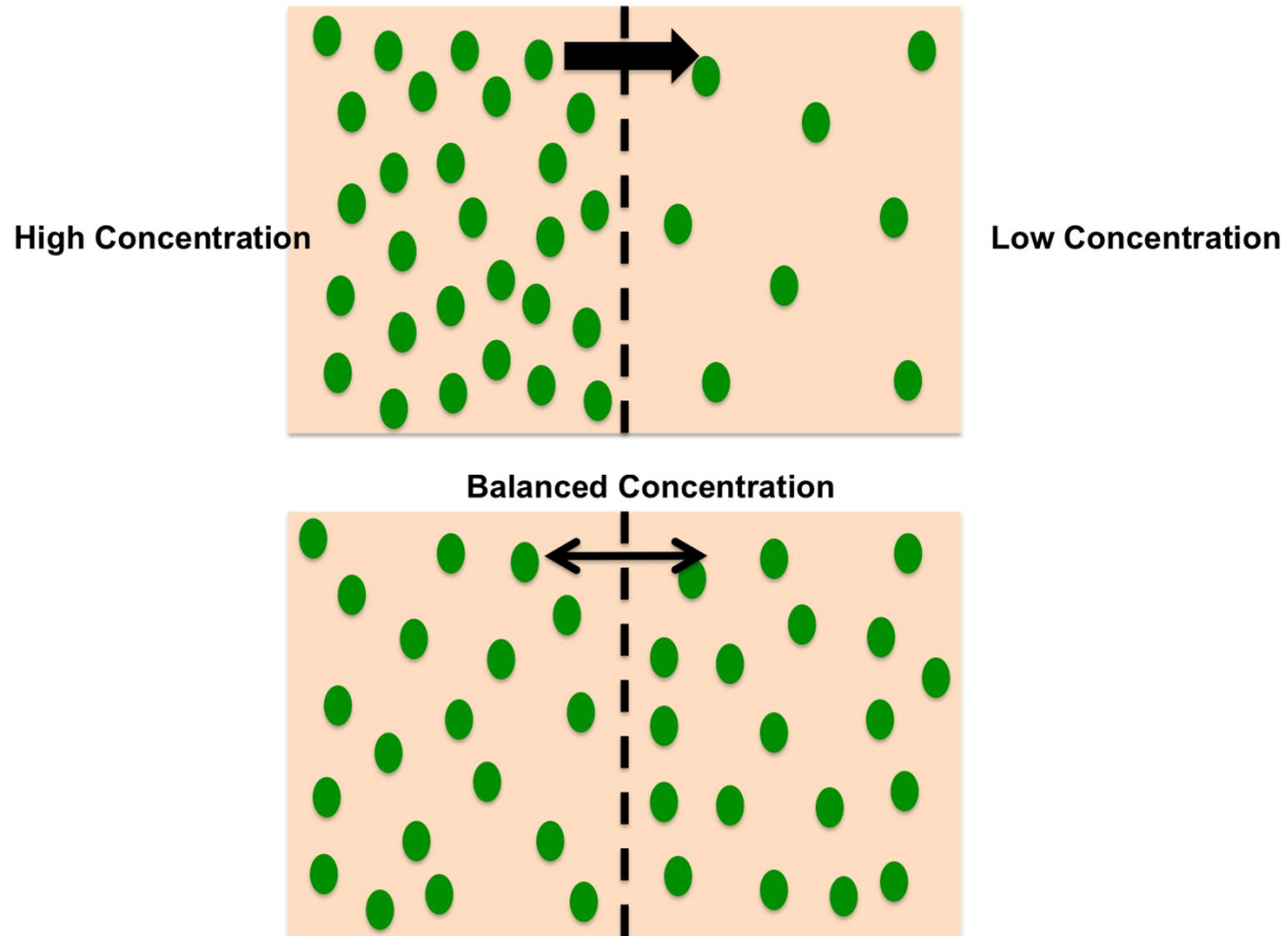


DIFFUSION

- Diffusion can take place at different rates (speeds)
- Concentration
 - High concentration = faster diffusion
 - More particles to that want to move
- Temperature
 - High temperature = faster diffusion
 - More particles collide which makes them more
- Pressure
 - High pressure = faster diffusion
 - Particles closer together which make more collisions

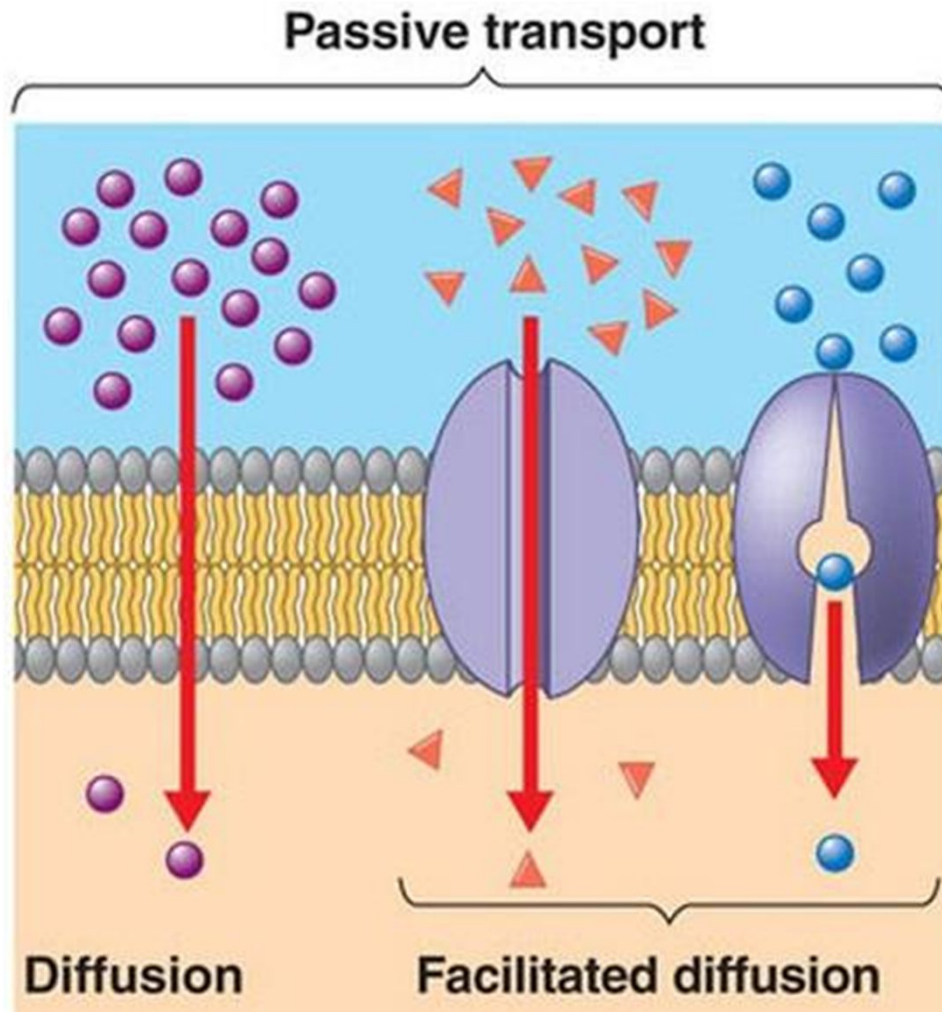
DIFFUSION



DIFFUSION ACROSS THE PLASMA MEMBRANE

- Cells need water AND other molecules to get in and out of the cell
- Water diffuses through the plasma membrane very easily
- Most other molecules CANNOT move as easily
- Facilitated diffusion
 - Uses transport proteins to move small molecules across the membrane
 - Still requires NO EXTRA ENERGY
 - Still moving from high concentration to low concentration

DIFFUSION ACROSS THE PLASMA MEMBRANE



OSMOSIS: DIFFUSION OF WATER

- ◉ Water passes freely into and out of the cell
- ◉ **Osmosis** - diffusion of water across a selectively permeable membrane
- ◉ Need to regulate water movement to maintain homeostasis
- ◉ **Demonstration:**
 - Solution of cornstarch inside the tubing
 - Placed in a beaker of iodine
 - What will happen over the hour?

HOW OSMOSIS WORKS

- ◉ Vocabulary review:
 - Solution
 - Solvent
 - Solute
- ◉ Water is the solvent in a cell
- ◉ Concentration tells how much solute is dissolved in a solvent
 - Remember it's talking about particles
- ◉ When solvent increases, concentration decreases
- ◉ When solvent decreases, concentration increases

HOW OSMOSIS WORKS

