# Diffusion → Net movement of particles from a region of ↑H. conc. to a region of ↓L. conc. down a conc. gradient

Factors:
- Temp.
- State of matter
- SA : Vol. ratio
- Steepness of conc. gradient

} ↑ ..., ↑ K.E., ↑ faster ptc/ rate

# Osmosis → Movement of $H_2O$ mol. from solution of ↑H $H_2O$ potential to a solution of ↓L $H_2O$ potential through a P.P.M.

Hypertonic → ↓ lower water potential
Hypotonic → Higher water potential
Isotonic → Same water potential

Template
- Higher/Lower $H_2O$ pot. than .. / conc. of ..
- Movement of $H_2O$ mol via osmosis through ppm. / via diffusion
- down conc. gradient + Size change (plasmolyze, flaccid / turgid)

eg. Gaseous exchange in lungs
1. $O_2$ inhaled dissolves into thin film of moisture
2. ... diffuses across alveolar wall
3. . . . . capillary wall
4. into Red blood Cell.

1. $CO_2$ diffuses out of RBC
2. ... diffuses across capillary wall
3. ... across alveolar wall
4. $CO_2$ exited ... across thin film of moisture & exhaled!

# Plants

1. $H_2O$ pot...
2. Water leaves/enters by ... } Hypotonic solution of cell sap
3. Plasmolyzes
4. Tissue becomes flaccid

↓

Turgor pressure
- Enables plant to keep firm & erect.

Hypertonic:
3. Vacuole ↑ in size
4. Cell contents pushes against cell wall, enlarges & becomes turgid.
5. Cell wall prevents (plant cell) from bursting.

As $H_2O$ enters, vacuole ↑ size & cell contents are pushed against cell wall. The cell wall prevents cell from bursting and entry of $H_2O$ by exerting counter pressure.

Y - Results, X - Controlled variable

↕

A.T. → Process in which energy is used to move ptc of a subs. against conc. gradient from region of lower conc. to higher conc.