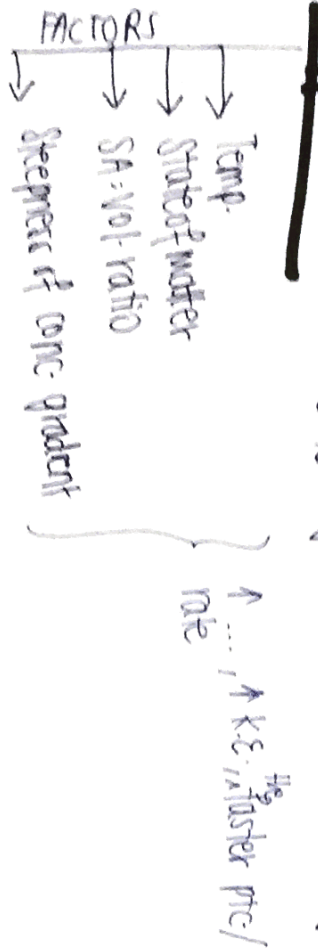


Diffusion

→ Net movement of particles from a region of \uparrow conc. to a region of \downarrow conc. down a conc. gradient



Osmosis

→ Movement of H_2O mol. from solution of \uparrow H_2O potential to a solution of \downarrow H_2O potential through p.p.m.

Hypertonic \rightarrow lower water potential
Hypotonic \rightarrow higher water potential
Isotonic \rightarrow same water potential

temperature

- Higher flower H_2O pot. than ... / conc. of ...
- movement of H_2O mol. via osmosis through p.p.m. / via diffusion
- down conc. gradient + size change (plasmolyze, flaccid / turgid)

eg. Guttula excreta in lung

1. O_2 inhaled dissolves into thin film of moisture
2. O_2 diffuses across alveolar wall
3. O_2 diffuses across capillary wall
4. into Red blood cell.

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

plants

1. H_2O pot. ...
2. water leaves / enters by ...
3. plasmolyzes
4. Tissue becomes flaccid

Hypotonic solution of cell sap

3. Vacuole \uparrow in size
4. Cell contents pushes against cell wall, enlarges & becomes turgid.
5. Cell wall prevents from bursting.

- enables plant to keep firm & erect.

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

4 - Results, X - Controlled variable

A.T. \rightarrow process in which energy is used to move p.p.c. of a sub. against conc. gradient from region of lower conc. to higher conc.