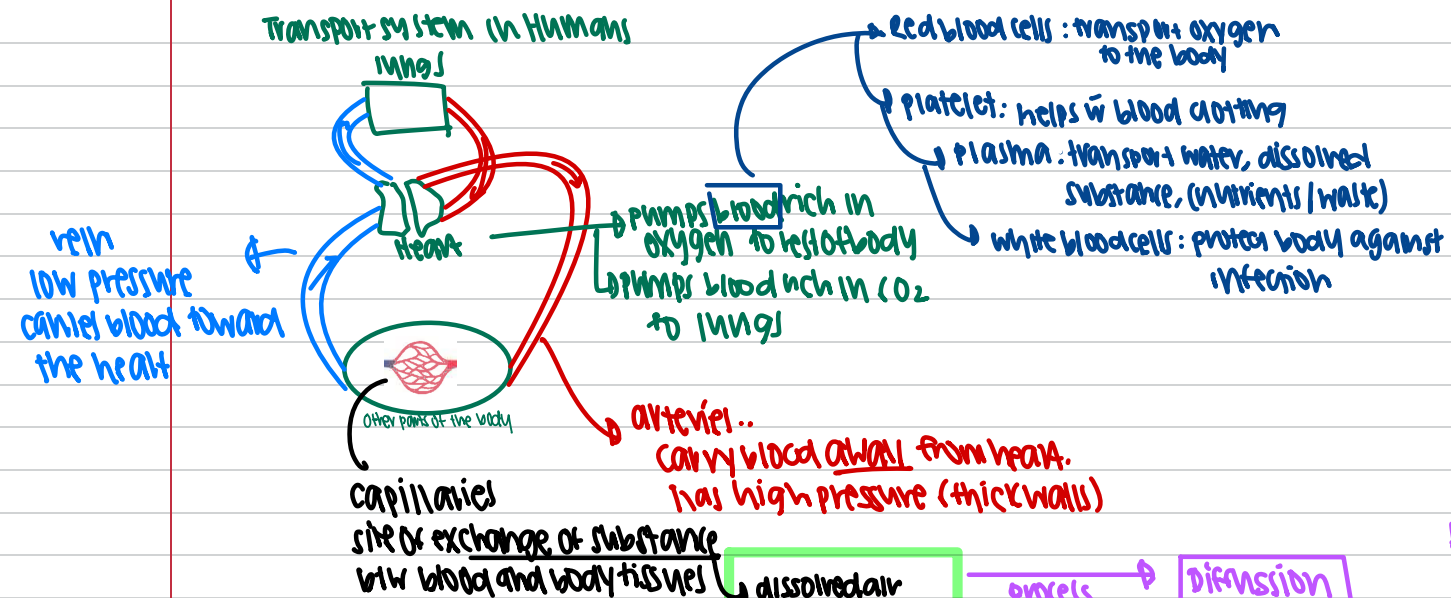


Transport system in Humans



dissolved air
 dissolved nutrients
 and minerals

process

Diffusion

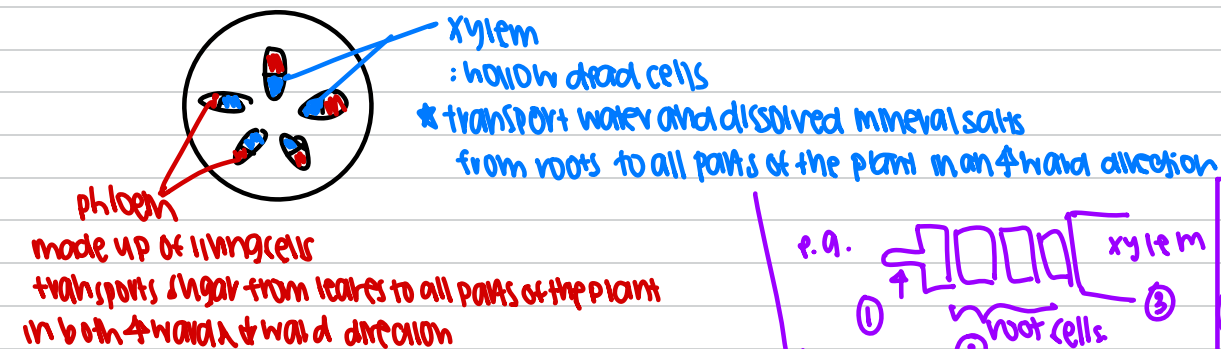
net movement of particles from a region of high concentration to a region of lower concentration.

e.g.

blood in capillary (↑ conc) of O₂ and nutrients diffuse to body cells (↓ conc of O₂ & nutrients) and body cells (↑ conc of O₂ and waste) diffuse to blood (↓ conc of O₂ and waste)

consideration for human transplant..

- ① respect for donor
- ② justice: fairness on allocation (criteria?)
- ③ minimal harm, max benefit
 - ↳ chances of post-survival
 - ↳ alternative treatments
 - ↳ quality of life post-survival
 - ↳ age; wealth considered? (justify if you think so)

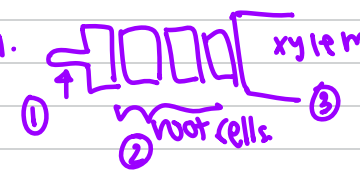


e.g. leaves
 CO₂ diffuse through stomata from surrounding (↑ conc) to leaves (↓ conc)
 [photosynthesis]
 leaves (↑ conc) of oxygen diffuse O₂ to the surrounding (↓ conc)

e.g.

Osmosis

partially permeable, cell membrane
 control movement of substance into and out of the cell.
 water moves from higher water potential to lower water potential.



- ① water potential of soil ↑ than root hair cells ∴ osmosis
- ② water moves across the cells by osmosis (diff. in water potential)
- ③ water goes to xylem; rest of the plant

unicellular no need transport system because nutrients/waste/gas can occur quickly

multicellular need system where each part carries a specific function to ensure the parts work together! (no accumulation of waste ~)

drugs: substance that affect body system

drug abuse: use drug to harm one's health

example: drug (ice, heroin); smoking (tobacco, nicotine);

- circulatory**
 - ↓ health, work
 - ↓ blood pressure
 - ↓ risk of heart attack
 - ↓ risk of blood clot
 - ↓ blood flow and narrow blood vessels
- respiratory**
 - lung cancer
 - bronchitis (inflammation of air tubes)
 - damaged air sacs
- digestive**
 - nausea, vomit, pain
 - mouth/throat cancer
 - stomach ulcer
- nerves**
 - drowsiness, anxiety, hallucination
 - memory loss
- sexual**
 - infertility
 - impotency