Movement of Substances

Diffusion:

- net movement of particles from region of higher conc to region of lower conc
- down the conc gradient

Osmosis:

• net movement of water molecules from region of higher water potential o region of lower water potential

Turgidity



- Plant cell turned turgid.
- Solution X has a higher water potential than the plant cell
- water molecules move from solution x to the plant cell through the partially permeable cell surface membrane by osmosis
- causing the vacuole to expand in size and hence, the tugidity

Flaccidity



- Plant cell is flaccid.
- Solution Y has a lower water potential than the plant cell
- water molecules move from the plant cell to solution Y through the partially permeable cell surface membrane by osmosis
- causing the vacuole to shrink in size and hence the flaccidity.

Plasmolysis



- Plant cell is plasmolysed.
- Solution Z has a much lower water potential than the plant cell
- water molecules move from the plant cell to solution z through the partially permeable cell surface membrane by osmosis.
- causes the vacuole to shrink in size, the cell surface membrane pulling away from the cell wall and hence, the plasmolysis.

RBC bursting



- Solution x has a higher water potential than the red blood cell
- water molecules move from solution x into the red blood cell through the partially permeable cell surface membrane by osmosis
- causing the red blood cell to expand in size and hence, the bursting of the red blood cell occurs.



- Solution y has a lower water potential than the red blood cell
- water molecules from the red blood cell moves to solution y through the partially permeable cell surface membrane by osmosis
- causing the red blood cell to shrink in size due to dehydration, hence the crenation of the red blood cell.