Spec ref: 4.1.3.2

KEY FACTS

- Osmosis: NET movement of WATER from HIGH water potential to LOW water potential through partially permeable membrane
- Dilute solution = HIGH water potential. Concentrated solution = LOW water potential
- Turgid plant cell: water absorbed → vacuole swells → firm. Prevents wilting.
- Plasmolysed cell: water lost → membrane pulls away from cell wall → limp
- Crenated animal cell: shrinks in concentrated solution (no cell wall to prevent bursting)

★ Water potential of pure water = 0 kPa. Solutions have LOWER (more negative) values

EQUATIONS / FORMULAS

% mass change: (final mass − initial mass) ÷ initial mass × 100

KEY TERMS

Osmosis	Net movement of WATER through partially permeable membrane — from high to low water potential
Turgid	Plant cell full of water — firm because vacuole presses against cell wall
Plasmolysed	Plant cell that has lost water — membrane pulled away from cell wall
Water potential	Measure of tendency of water to move — pure water = 0 kPa

■ EXAM TIP: Osmosis = WATER ONLY. Always say "partially permeable membrane." Direction: dilute (high WP) → concentrated (low WP).