

# Transport in Cells

Diffusion is the spreading out of the particles of any substance in solution, or particles of a gas, resulting in a net movement from an area of higher concentration to an area of lower concentration.

## Diffusion

### Rate Of Diffusion Affected By

concentration gradient

temperature

surface area of the membrane

### effectiveness of an exchange surface is increased by

having a large surface area

A thin membrane

having an efficient blood supply (in animals)

being ventilated (in animals)

Osmosis is the diffusion of water from a dilute solution to a concentrated solution through a partially permeable membrane.

## Osmosis

Water may move across cell membranes

Active transport moves substances from a more dilute solution to a more concentrated solution (against a concentration gradient).

## Active transport

requires energy from respiration

allows mineral ions to be absorbed into plant root hairs from very dilute solutions in the soil

allows sugar molecules to be absorbed from lower concentrations in the gut into the blood (which has a higher sugar concentration)