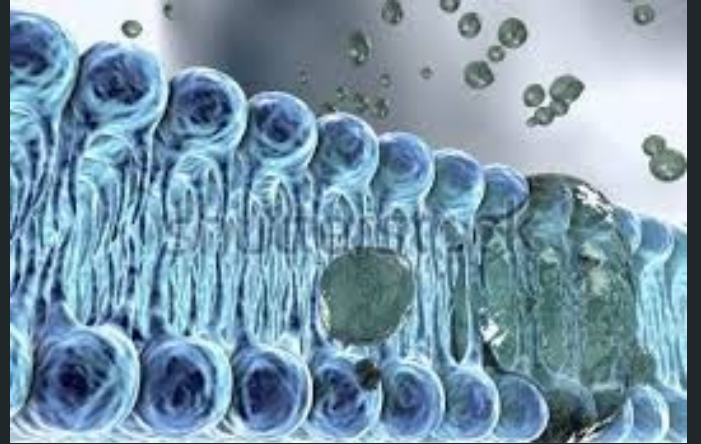


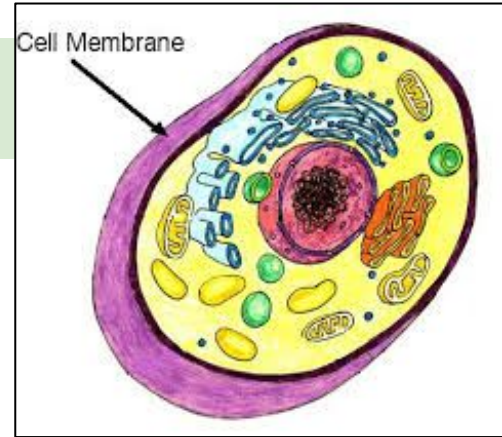
# Diffusion through the Cell Membrane



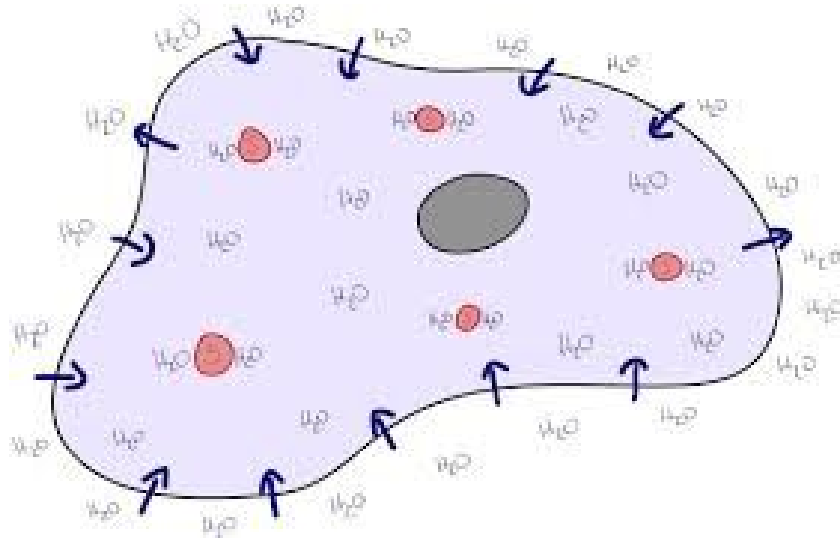
Chapter 7.3

## Diffusion through the cell membrane

The most important function of the cell membrane is to regulate the movement of dissolved molecules in and out of the cell.

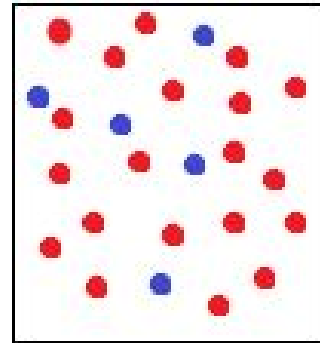


The cytoplasm contains a solution of many different substances in water.

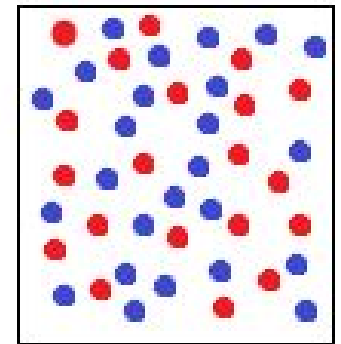


Substances dissolved in a solution are called the solutes.

The **concentration** of a solution is the mass of the solute in a given volume. (mass/volume)



Dilute solution

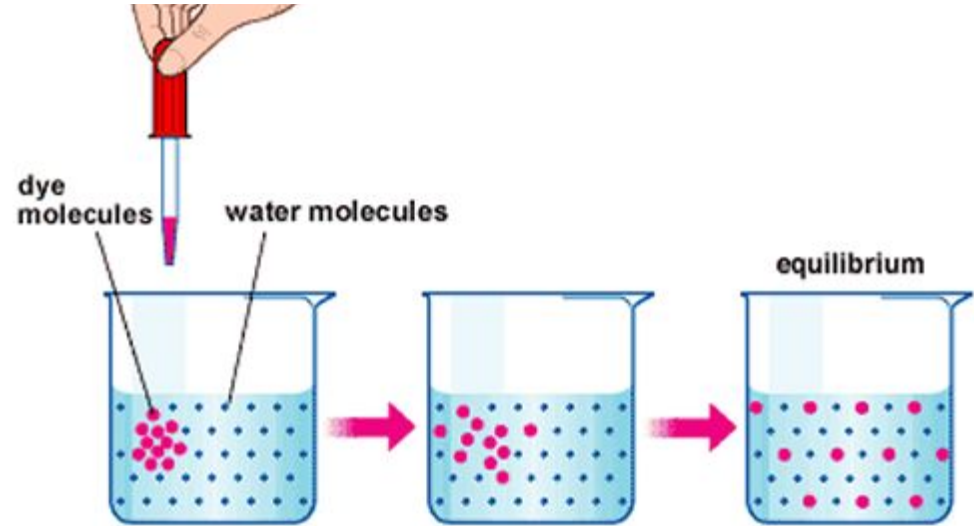


Concentrated solution

Particles tend to move from areas where they are more concentrated to areas where they are less concentrated.

This process is known as diffusion.

When a concentration has equalized, the system has reached equilibrium.



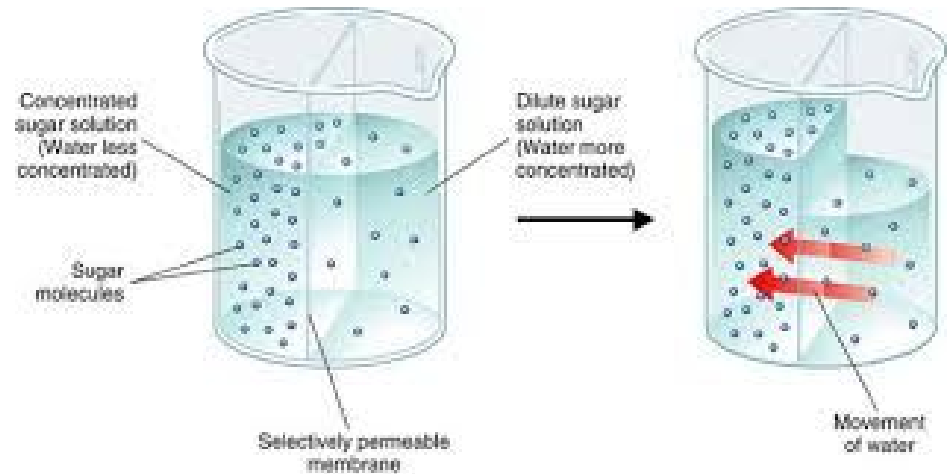
# Osmosis

Most membranes are selectively permeable

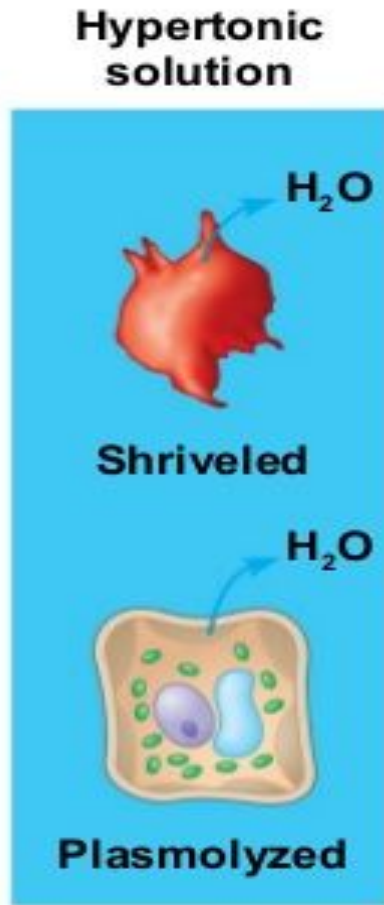
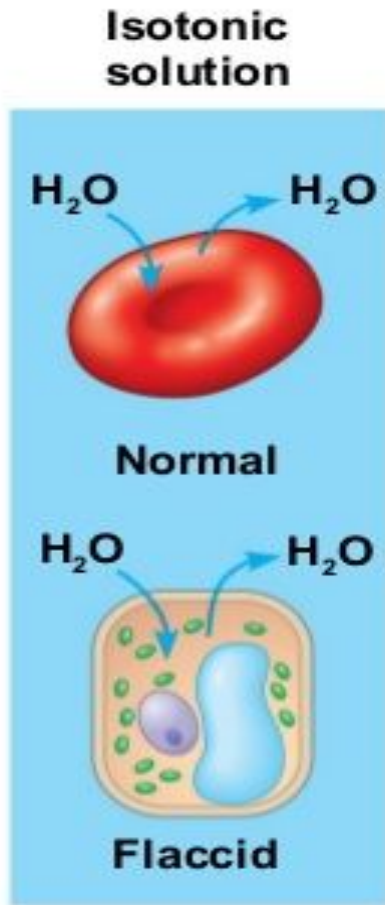
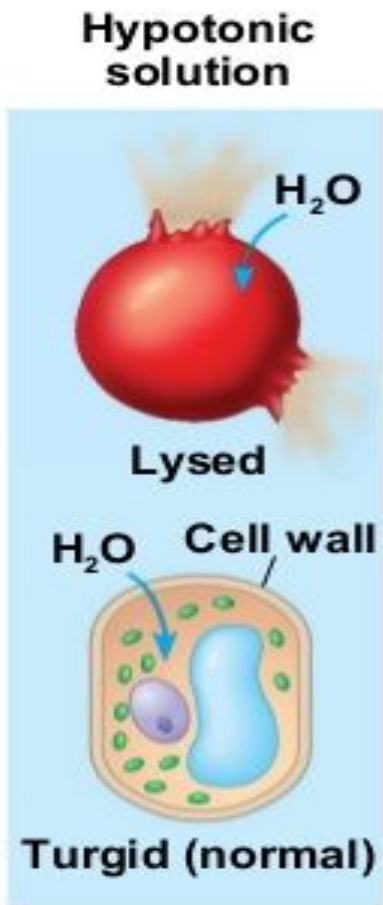
(Some substances can pass through, while other cannot.)

Osmosis is the diffusion of water across a membrane, to areas of less concentration.

Water will continue to move across the membrane until equilibrium is reached.



(a) Animal cell



(b) Plant cell

