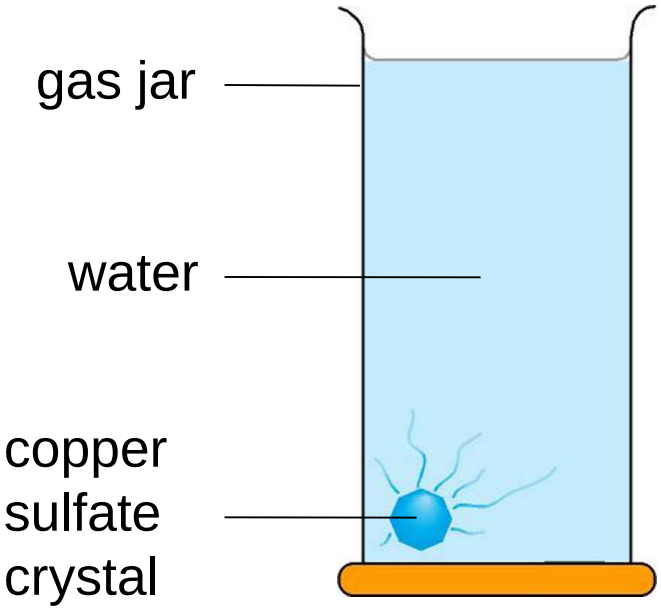
3.1 Diffusion

Diffusion of a dissolved substance

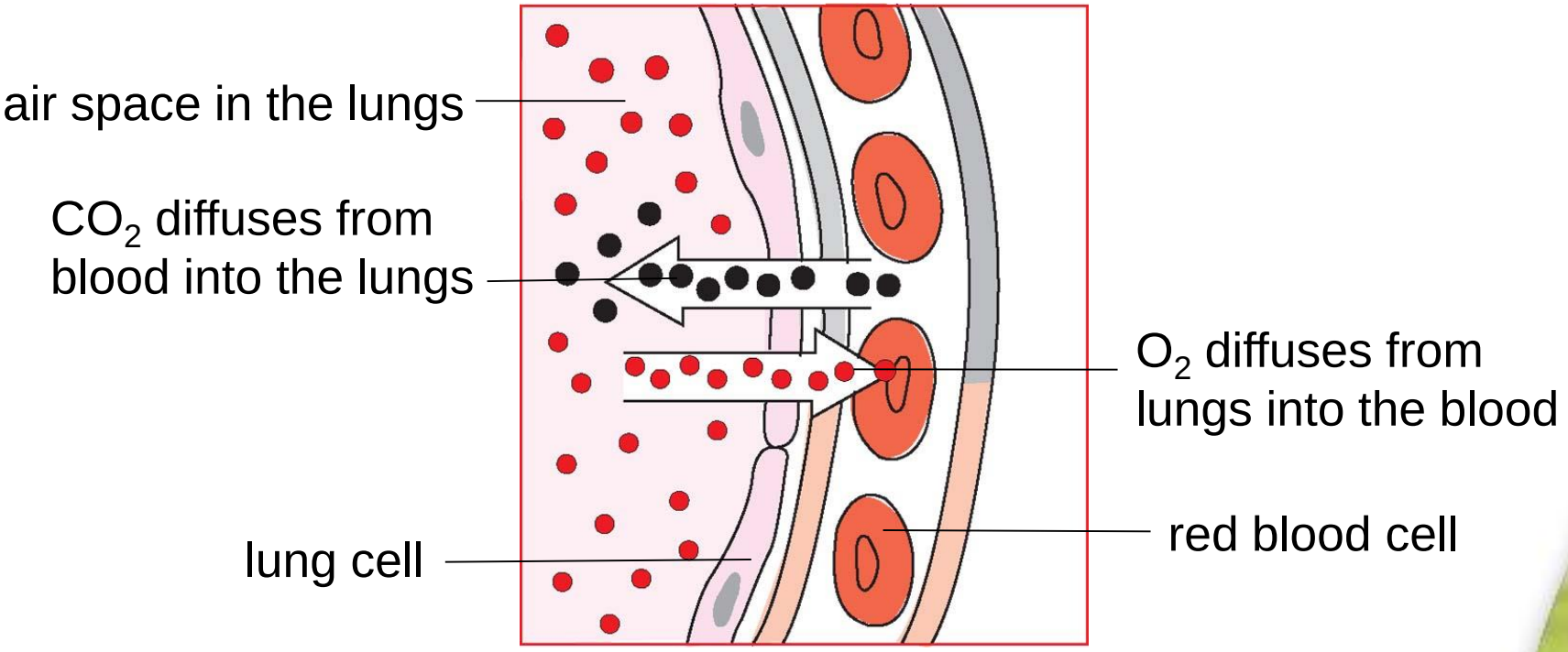


1. A copper sulfate crystal is dropped into a gas jar containing water.
2. The gas jar is allowed to stand for a few days.
3. The blue colour gradually spreads throughout the water.
4. The copper sulfate particles diffused evenly throughout the water.

3.1 Diffusion

Diffusion of gases in the lungs

Gaseous exchange in the lungs occurs via diffusion.



3.2 Osmosis

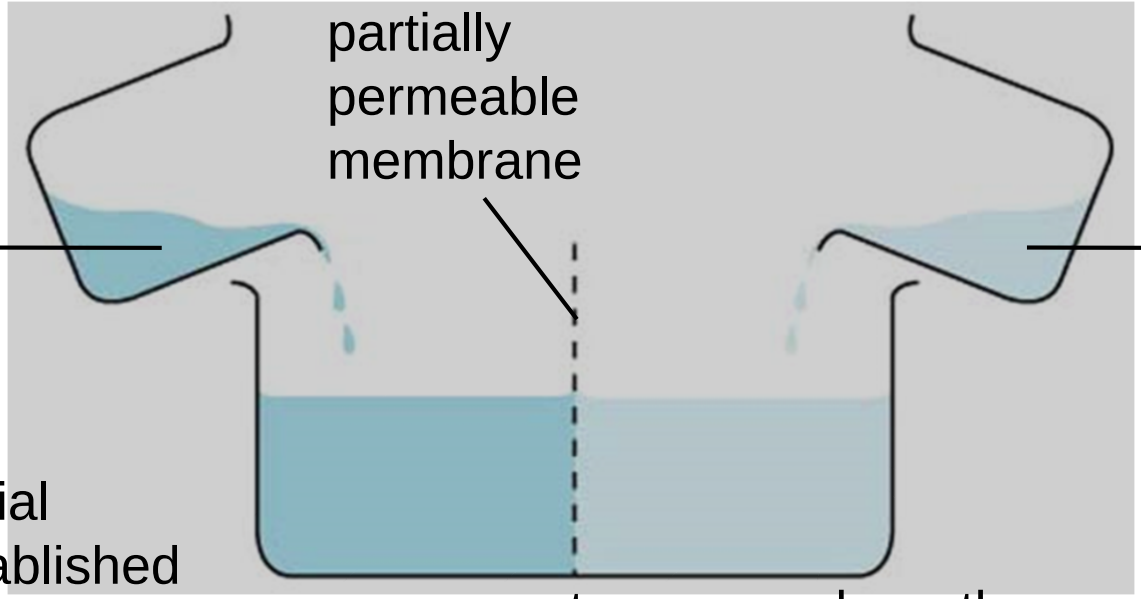
What is water potential and how is it related to osmosis?

- The **tendency of water molecules to move from one place to another** is known as water potential.
- A dilute solution has a **higher** water potential.
- A concentrated solution has a **lower** water potential.

3.2 Osmosis

What is water potential and how is it related to osmosis?

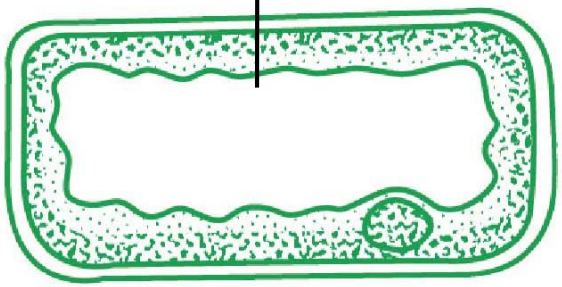
A **water potential gradient** is established when a partially permeable membrane separates two solutions of different water potentials.



3.2 Osmosis

What happens to a cell in a solution with lower water potential?

cell sap in vacuole

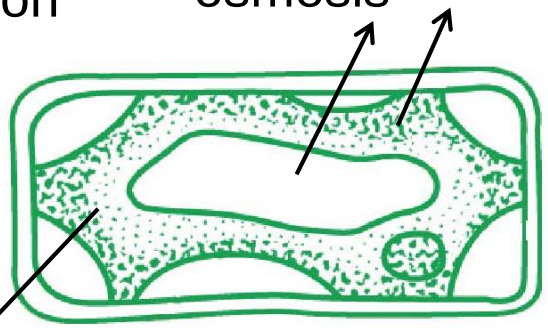


plant cell

1. cell sap has higher water potential than surrounding solution

in solution with low water potential

2. water leaves by osmosis



3. cytoplasm shrinks away from cell wall and cell becomes **plasmolysed**

4. cell becomes **flaccid**

Chapter 3

Movement of Substances