



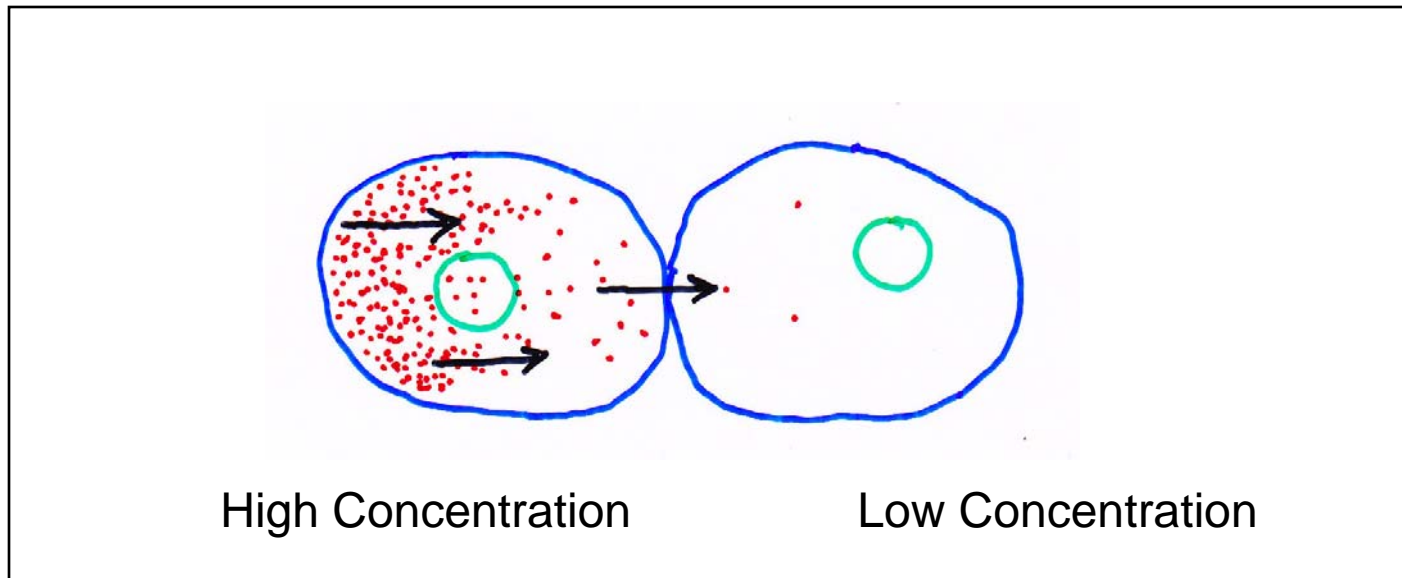
# Lesson 4A: Cell Membrane - Diffusion and Osmosis (Nelson Page 32 & handout)

# Key Terms

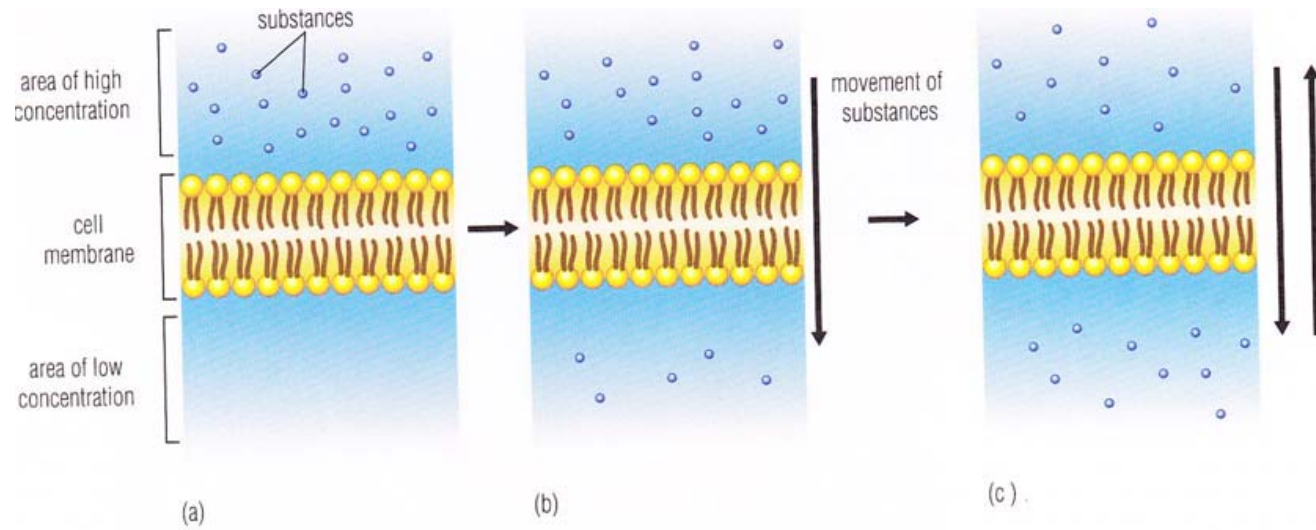
<b>Key Term</b>	<b>Definition &amp; Explanation</b>
<b>diffusion</b>	The movement of molecules (or other particles) from an area of higher concentration to an area of lower concentration until they are evenly distributed.
<b>osmosis</b>	The movement of water across a cell membrane from higher water concentration to low water concentration.
<b>Concentration</b>	The number of molecules of a substance in a given volume.
<b>Semi-permeable</b>	Only allow certain materials to go through.

# Diffusion

Materials move from an area of higher concentration to an area of lower concentration until they are equally distributed.



# Osmosis



# Osmosis

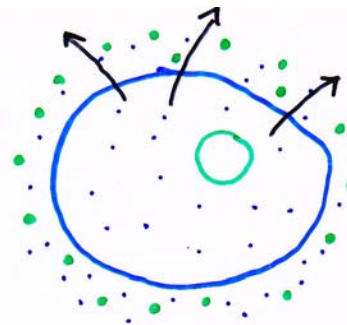
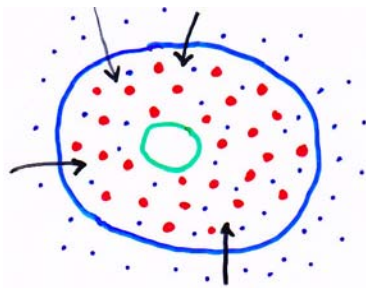
- There is a higher **concentration** of substances on one side of the cell membrane.
- The substances move to (diffuse) the side that has a lower concentration until a **balanced state** (equilibrium) is attained.
- When equilibrium is reached, the substances **diffuse** across the cell membrane in **both directions**.

# Osmosis

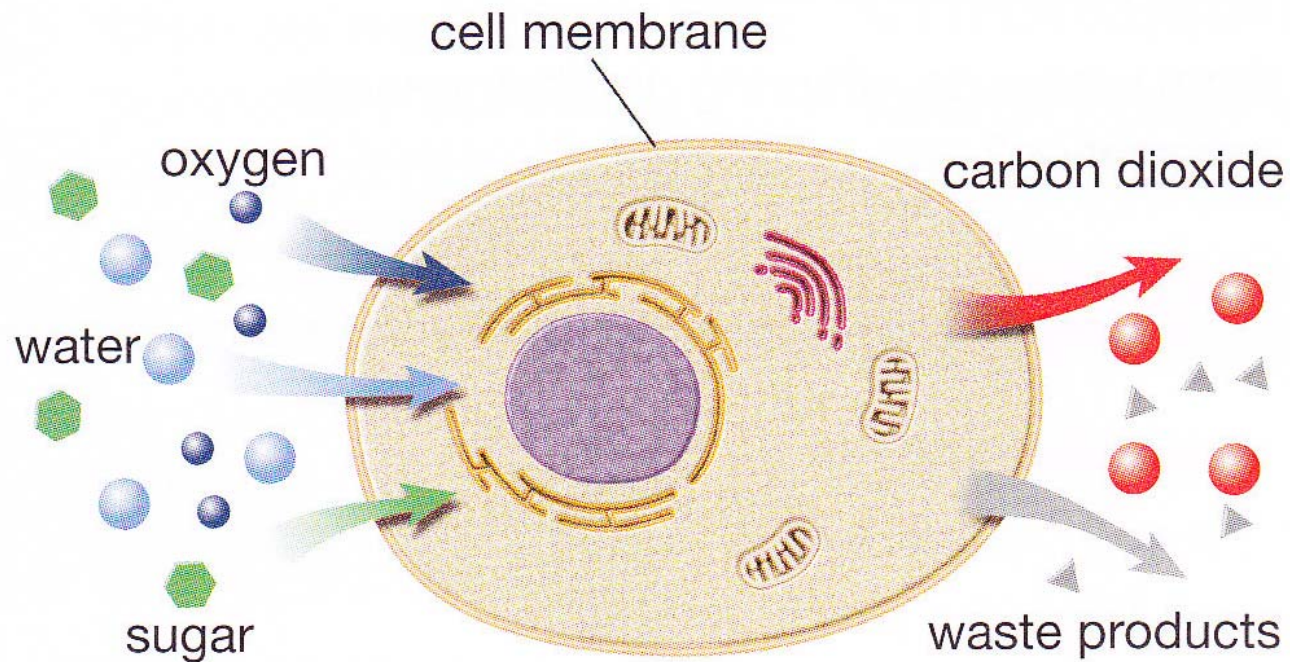
- **Water molecules move from an area of high water concentration to low water concentration.**

- **water molecules move into the cell**

- **water molecules move out of the cell**



- Dissolved materials that cannot go through the cell membrane
- Water molecules
- Other dissolved materials that cannot go through the cell membrane



**Figure 1** Cells need to obtain oxygen, water, and nutrients. Cells must also get rid of carbon dioxide and wastes.