

Master

8

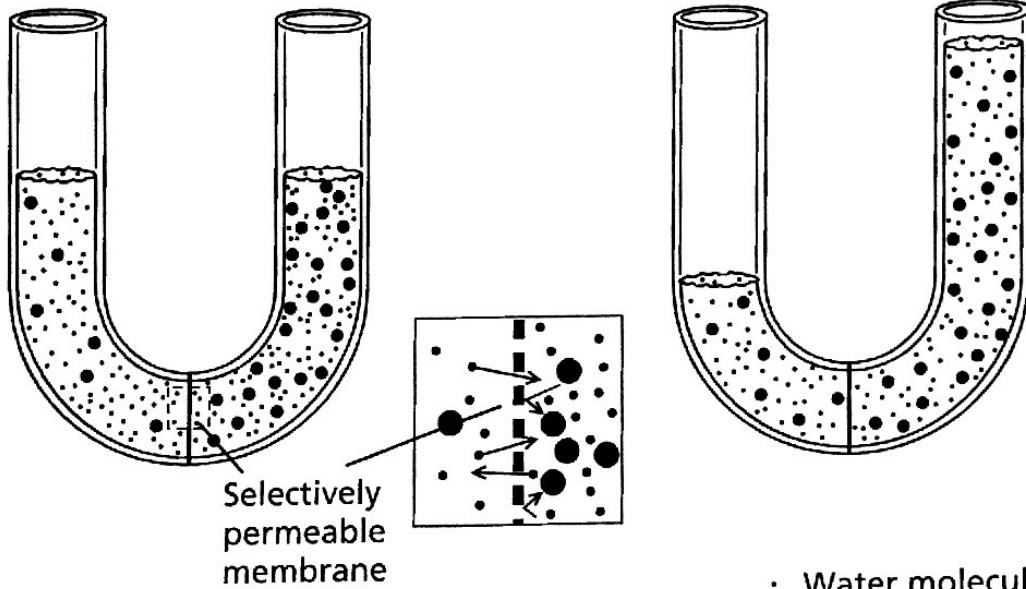
Osmosis

Basic Concepts

Use with Chapter 8, Section 8.1

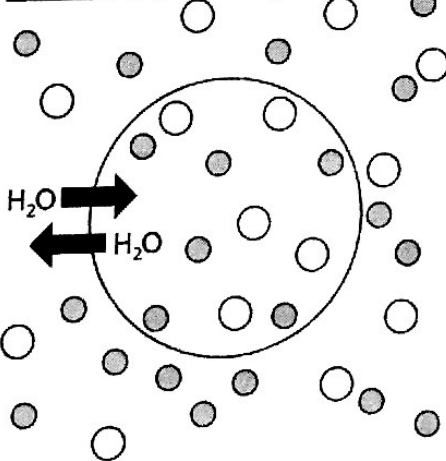
Before osmosis

After osmosis



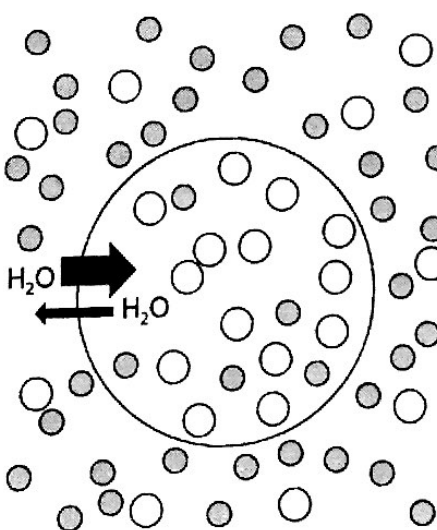
Cell in Isotonic Solution

Water molecules
Dissolved particles



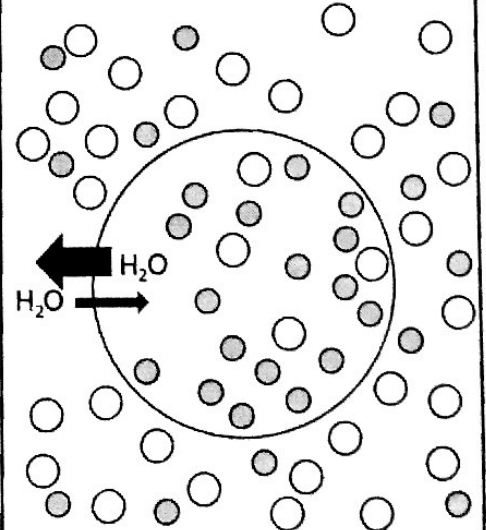
▲ In an isotonic solution, water molecules move into and out of the cell at the same rate.

Cell in Hypotonic Solution



▲ In a hypotonic solution, water enters a cell by osmosis, causing the cell to swell.

Cell in Hypertonic Solution



▲ In a hypertonic solution, water leaves a cell by osmosis, causing the cell to shrink.

Worksheet**8****Osmosis****Basic Concepts***Use with Chapter 8, Section 8.1*

1. Look at the U-shaped tube at the top of the transparency. Why did the number of water molecules on each side of the membrane change, whereas the number of sugar molecules stayed the same?

2. How does the plasma membrane of a cell compare with the membrane in the U-shaped tube?

3. Explain the behavior of water molecules in the isotonic solution.

4. Does osmosis occur if a cell is placed in an isotonic solution?

5. Why does water enter a cell that is placed in a hypotonic solution?

6. What happens to the pressure inside a cell that is placed in a hypertonic solution?

7. What can happen to animal cells when placed in a hypotonic solution? Explain.

8. What causes a plant to wilt?
