

**Master
8**

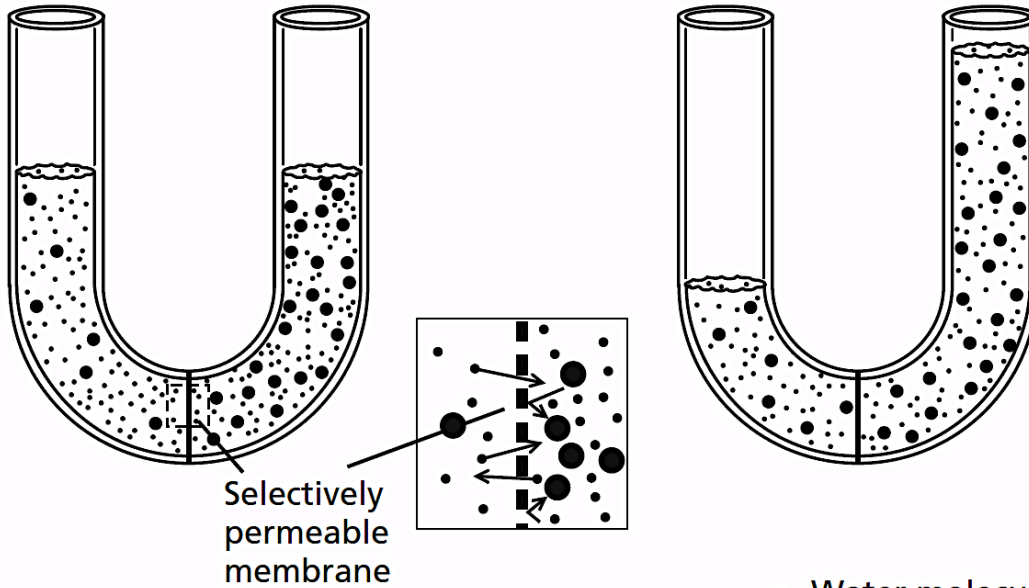
Osmosis

Basic Concepts

Use with Chapter 8, Section 8.1

Before osmosis

After osmosis



- Water molecule
- Sugar molecule

Cell in Isotonic Solution	Cell in Hypotonic Solution	Cell in Hypertonic Solution
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<p>▲ In an isotonic solution, water molecules move into and out of the cell at the same rate.</p>	<p>▲ In a hypotonic solution, water enters a cell by osmosis, causing the cell to swell.</p>	<p>▲ In a hypertonic solution, water leaves a cell by osmosis, causing the cell to shrink.</p>

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?
