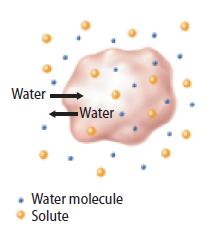
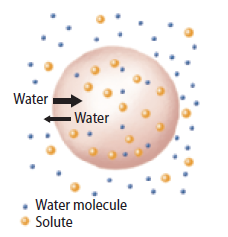
* What are the processes of diffusion and facilitated diffusion?
* What is the effect of a hypotonic, hypertonic, or isotonic solution on a cell?

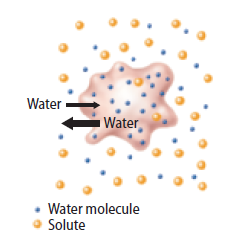
ESSENTIAL QUESTIONS:

* Particles in solids, liquids, and gasses are in \_\_\_\_\_\_\_\_\_\_\_\_\_\_ random \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* **Diffusion** is the net \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of particles from an area of \_\_\_\_\_\_\_\_ concentration to an area of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ concentration.
  + This does not require additional \_\_\_\_\_\_\_\_\_\_\_\_\_ because the particles are already in \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* When diffusion occurs over a long enough time, concentrations will become \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and the solutions will reach **dynamic equilibrium**.
  + Molecules continue to \_\_\_\_\_\_\_\_\_\_, but the overall concentration stays the \_\_\_\_\_\_\_\_\_.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ can diffuse across the plasma membrane, but most other substances cannot.
* **Facilitated diffusion** uses \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to move ions and small molecules across the plasma membrane.
* Diffusion and facilitated diffusion are types of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ transport – they require no additional \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* **Osmosis** is the diffusion or movement of \_\_\_\_\_\_\_\_\_\_\_\_\_ across a selectively permeable membrane.

**ISOTONIC:**

* + It will move until the concentration of \_\_\_\_\_\_\_\_\_\_\_\_ is the same on both sides.
* Cells in an **isotonic** solution have the \_\_\_\_\_\_\_\_\_\_ concentration of water and solutes inside and out of the cell.
  + Water still \_\_\_\_\_\_\_\_\_\_\_ through the membrane, but it enters and leaves at the \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_.

**HYPOTONIC:**

* Cells in a **hypotonic** solution \_\_\_\_\_\_\_\_\_\_ water because there is a \_\_\_\_\_\_\_\_\_\_\_\_\_ concentration of solutes outside of the cell.
  + As water moves int the cell, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ increases.
  + Animal cells can \_\_\_\_\_\_\_\_\_\_\_\_\_ when placed in extremely hypotonic solutions.

**HYPERTONIC:**

* Cells in a **hypertonic** solution \_\_\_\_\_\_\_ water because there is a \_\_\_\_\_\_\_\_\_\_\_\_\_ concentration of solutes outside the cell than within.
  + As water moves out of the cell, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ decreases, which causes \_\_\_\_\_\_\_\_\_\_\_\_\_\_ in plants.