

# Vocabulary: Diffusion



## Vocabulary

- Absolute zero – the coldest possible temperature.
  - Absolute zero is equivalent to  $-273.15\text{ }^{\circ}\text{C}$ , or  $-459.67\text{ }^{\circ}\text{F}$ .
  - At absolute zero, the molecules in a substance do not move.
- Controlled experiment – an experiment in which the effect of a single variable is observed by keeping all of the other variables constant.
  - For example, if you were investigating the effect of temperature on rate of diffusion, you would experiment with different temperatures, but leave the particle mass, wall size, and number of particles the same in each trial.
- Diffusion – the spontaneous net movement of particles from an area of high concentration to an area of low concentration.
  - Tiny particles are in constant, random motion. Over time, particles will tend to spread throughout their container.
  - Examples of diffusion include the spread of food coloring in a glass of water and the spread of air freshener through a room.
- Dynamic equilibrium – a state of balance in which there is little or no total change.
  - When particles in two regions are in dynamic equilibrium, they may move back and forth between the regions, but the total number of particles in each region remains roughly constant.
- Kelvin scale – a temperature scale that is measured from *absolute zero*, the coldest possible temperature.
  - On the Kelvin scale, water freezes at  $273.15\text{ K}$ , and water boils at  $373.15\text{ K}$ .
- Kinetic energy – energy of motion.
  - The faster an object is moving, the greater its kinetic energy.
  - The more massive a moving object is, the greater its kinetic energy.
  - Temperature is a measure of the kinetic energy of a group of particles.