

# GENERAL CHEMISTRY

## STANDARD 9.1

# DEFINITIONS

- **Kinetic Molecular Theory:** A theoretical model that describes the motion of particles and has six main postulates
- **Postulate:** An assumption
- **Ideal Gas:** A gas that satisfies all of the Kinetic Molecular Theory postulates

# KINETIC MOLECULAR THEORY

- Postulates of the Kinetic Molecular Theory:
  - Gases are composed of a large number of particles that behave like hard, spherical objects in a state of constant, random motion
  - These particles move in a straight line until they collide with another particle or the walls of the container
  - These particles are much smaller than the distance between the particles. Most of the volume of a gas is empty space
  - There is no force of attraction between gas particles or between particles and the walls of the container
  - Collisions between gas particles or collisions with the walls of the container are perfectly elastic. None of the energy of a gas particle is lost when it collides with another particle or with the walls of the container
  - The average kinetic energy of a collection of gas particles depends on the temperature of the gas and nothing else