

Investigate: The Motion of Gases

Procedure:

1. Open the PhET Gas Properties simulation
2. Make sure that the Constant Parameter box is marked "None." (You may change this later if you'd like to experiment a bit.)
3. Under Tools and Options, click on "Measurement Tools>>" and then check "Species information." This will be useful for determining the speed at which the particles are moving.
4. Use the PhET Gas Properties simulation to explore the behavior of gases. Specifically explore the relationship between Kinetic energy, Temperature, Pressure, Volume and number of particles.

Post Lab:

1. What appears to occupy the majority of the volume of a gas? Explain.
2. Briefly describe the motion and behavior of gas particles.
3. What causes gas particles to change direction?
4. When gas particles collide, do they appear to lose any kinetic energy? Explain.
5. What relationship appears to exist between the average speed of gas particles and the temperature of the gas? Between number of particles and pressure? Between temperature and kinetic energy of the particles? Explain your answer to each.