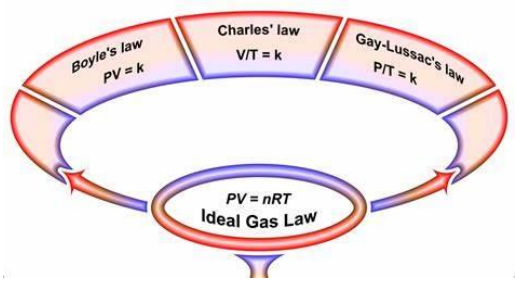
Name: _____



Subject: Chemistry

Chemistry Lab Title - Gas Properties - Understanding gas model

Purpose: Describe a molecular model of gas pressure.

Hypothesis: _____

Procedures:

Open Gas Properties (Ideal) and then use the pump to put gas into the box:

1) Observe gas particles' behavior.

2) Pump in some lighter particles (red) and discuss the similarities and differences that you note between heavy (blue) and light (red) particles.

3) Use the simulation to see how changing the temperature affects the behavior of the different gas particles.

4) Write a description for a gas based on your observations; include diagrams (or screenshots of the simulation) to help with your description.

5) Determine the size of the heavy particle using the simulation tools, and then relate their molecular size to something in your "real-world" that you are familiar. Show your calculations with the units clearly labeled.

6) Write your conclusion.

Observations: _____

Results: _____

Analysis & Conclusion: _____

Lab Questions:

1) How fast do you think the air particles in this room are moving compared to a car going 50 mph, which is about 22 meters/second (put your answer is in sentence form, 'a molecule travels ___ as fast as a car"). How does the size and speed of gas molecules relate to everyday objects?

2) Describe the particle behavior of gases using words and diagrams.

3) How are gases distinguishable from solid or liquid matter? Explain the differences and similarities between solid, liquid and gas particle motion.

4) How does temperature, container volume, and particle size affect gas particle behavior?

You are expected to use appropriate and relevant scientific vocabulary and reasoning regarding gas particle behavior and various gas laws within your written responses. The inclusion of this will indicate your understanding of the course content up until this point. Failure to do so will result in a rejection or failure of your assignment