

Gas Properties Computer Activity *yay!*

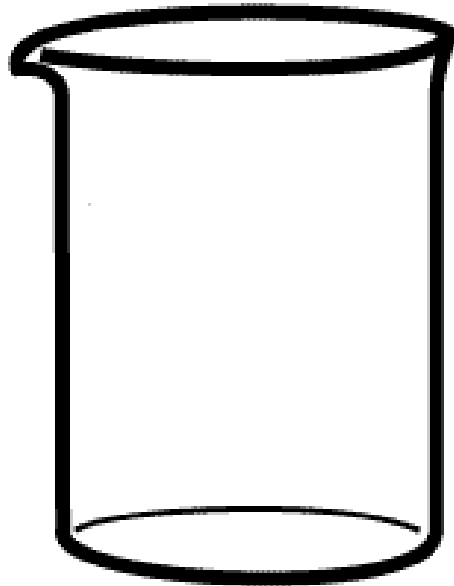
Objective:

To create a particulate model of gases using discussion and diagrams.

The description should include:

- The state of matter of air (solid, liquid and a gas).
- How the gas temperature affects the speed of the gas.
- Gases are made of small particles.

1. Draw a picture of what a gas looks like in a container.



- a. Use the pump to put a few gas particles in the box.
- b. Look at the gas particles' motion. Talk with your partner about how you think the gas molecules move and interact with each other based on your observations. Write down a few of these observations.

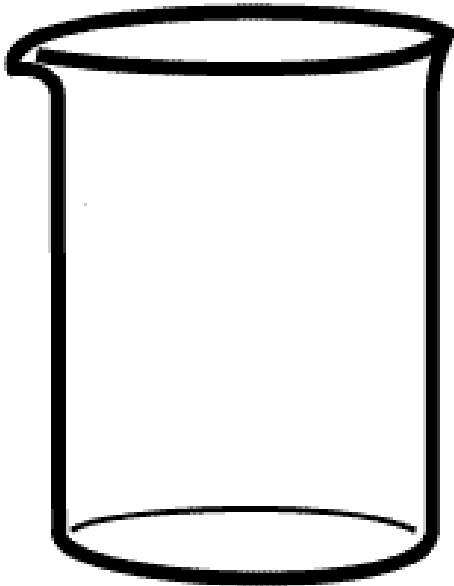
2. Raise the temperature of the box to 300K by turning on the burner. Then raise it to 1000K. What happens to the motion of the blue gas particles as you raise the temperature?

3. Look at the right hand side of the Phet window at the number by the blue word Heavy Species. Did the number of blue particles ever change while you were heating the box?

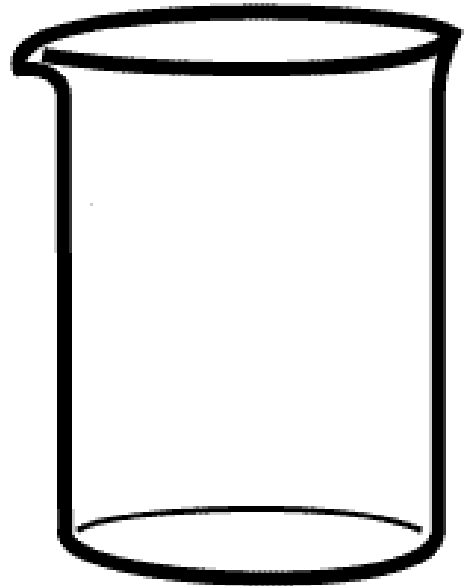
4. Lower the temperature to 500K by bringing the ice near the box. Next lower it to 100K. What happens to the motion of the gas particles as the temperature gets lower?

5. Now bring the ice near the box until you get the temperature as low as you can. Could you get the balls to stop moving? If so, at what temperature did they stop moving at?

6. Draw a picture of what the motion of air in a container looks like when it is cold. Now when it is hot?



Hot



Cold