

PhET: States of Matter

Name _____

Date _____

Introduction: There are more states of matter than just three. One such example is plasma, present in your plasma TV, or in the stars, and it is the most common state of matter in the universe. In Chemistry, however, we are mainly concerned with the most common states of matter on planet Earth: Solids (s), Liquids (l), and Gases (g).

Directions: Click on the link for the *States of Matter* link on vcichemistry.weebly.com, and run the program. First click on “States”, and Answer the questions below.

States

1. The program should start with solid Neon. Describe the spacing and motion of the particles in a solid.

2. What happens as you cool the solid?

3. What happens as you heat the solid?

4. Next, select the liquid phase. Describe the spacing and motion of the particles in a liquid.

5. What happens as you cool the liquid?

6. What happens as you heat the liquid?

7. Next, select the gas phase. Describe the spacing and motion of the particles in a gas.

5. What happens as you cool the gas?

6. What happens as you heat the gas?

Directions: Click on the box at the bottom of the page marked “Phase Changes”

Phases Changes

1. What happens when you pump some new particles in?
2. Why do you think they stick to the substance?
3. Heat up the solid, and describe what happens?
4. When does the Pressure (in atm) start to go up? Repeat if necessary.
5. If we continue to heat it, what happens to the Pressure?
6. Stop heating it for a bit. What happens to the Pressure as you use the finger to push down on the container? Why do you think this happens?
7. What eventually happens if you heat up the container too much or push down too much?
8. What happens to the particles if the container explodes?
9. Summarize what you've learned about phase changes and states of matter below.