

Name \_\_\_\_\_ Date \_\_\_\_\_ Block \_\_\_\_\_

**Procedure:**

- Open the internet browser and enter the address: <http://phet.colorado.edu>
- Click on “Play with Sims” and select “Chemistry” from the menu on the left.
- Open the “States of Matter” Simulation and select “Run Now”

**Investigation:**

1. Predict what the molecules of a solid, liquid and gas look like. Illustrate your prediction with a drawing.

Solid

Liquid

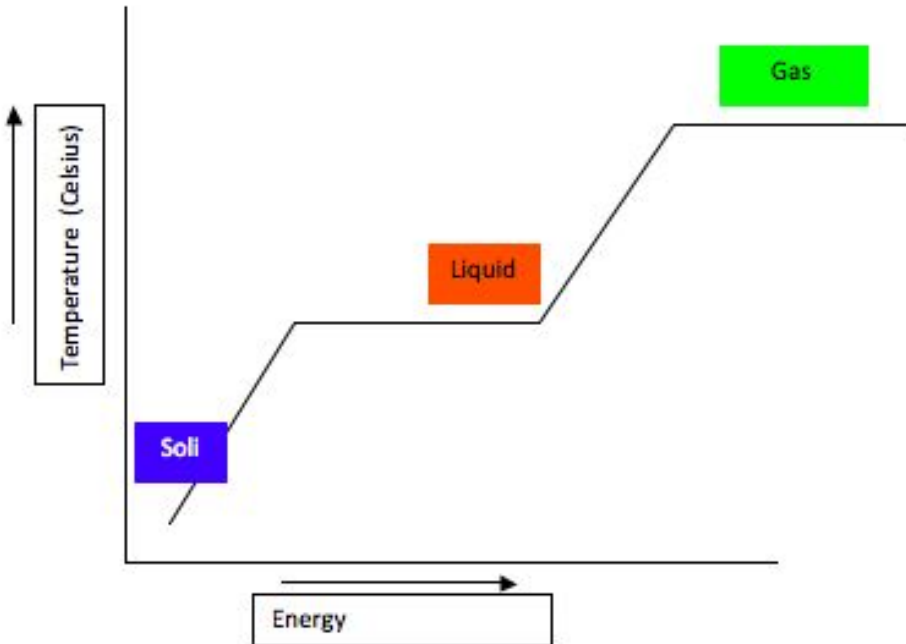
Gas

1a. Predict how a change in temperature (heat or cold) will affect each phase change.

2. Complete the table below by exploring the “Solid, Liquid, Gas” tab in the simulation. **Test** your predictions and record your observations by recording the temperature and illustrations of each substance in the three states of matter.

Substances	Observations		
	Solid	Liquid	Gas
<b>Neon</b>	Temperature:  Illustration:	Temperature:  Illustration:	Temperature:  Illustration:
<b>Argon</b>	Temperature:  Illustration:	Temperature:  Illustration:	Temperature:  Illustration:
<b>Oxygen</b>	Temperature:  Illustration:	Temperature:  Illustration:	Temperature:  Illustration:
<b>Water</b>	Temperature:  Illustration:	Temperature:  Illustration:	Temperature:  Illustration:

3. Interpret the graph of Kinetic Energy vs. Temperature.  
Using the graph describe the relationship between Kinetic Energy and Temperature.



4. Write a conclusion, using the simulation and graph.  
Use what you have learned in this activity to support the following two statements.
- How the molecules in a solid, liquid and gas compare to each other.
  - How temperature relates to the kinetic energy of molecules.