

## States of Matter

### 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 (at least 3 sentences).

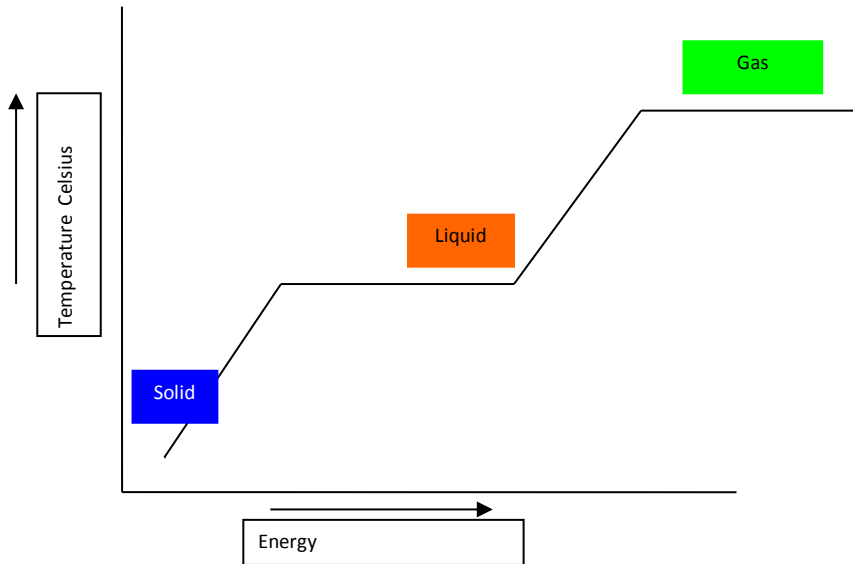
### Procedure:

- 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”

2. Complete the table on the next page 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
Neon	Temperature:	Temperature:	Temperature:
	Illustration:	Illustration:	Illustration:
Argon	Temperature:	Temperature:	Temperature:
	Illustration:	Illustration:	Illustration:
Oxygen	Temperature:	Temperature:	Temperature:
	Illustration:	Illustration:	Illustration:
Water	Temperature:	Temperature:	Temperature:
	Illustration:	Illustration:	Illustration:

3. Interpret the graph of Kinetic Energy vs. Temperature.  
Using the graph, describe the relationship between Kinetic Energy and Temperature (at least 1 paragraph).



4. Write a conclusion, using the simulation and graph.  
Use what you have learned in this activity to support the following two statements (at least 2 paragraphs).
- How the molecules in a solid, liquid and gas compare to each other.
  - How temperature relates to the kinetic energy of molecules.