**States of Matter Investigation** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class: \_\_\_\_\_\_ /35

**STEP 1:**BEFORE opening the simulation, describe what you think will happen to particles of solids, liquids, and gases when you add **thermal energy** (heat). [3]

**STEP 2:** Follow the steps below, drawing and describing what you see.

1. Select Water and Solid. Draw and describe what you see. [3]
2. Use the slider on the bottom of the program to Add Heat. Notice the thermometer at the top of the program.
   1. What temperature scale is this thermometer showing? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [1]
   2. What happens to the water as you increase the temperature? [2]
   3. What is the melting/freezing point of water in Kelvin? [1]
   4. Add heat until the temperature is just below and then just above the melting point of water. How is water different below its melting point and above it? [2]
3. Draw and describe what water looks like as a liquid. [5]

Draw: Describe:

* 1. What is the boiling/condensation point of water in Kelvin? [1]
  2. Continue to add heat until you are just below and then just above the boiling point of water. How is water different below its boiling point and above it? [2]

1. Draw and describe what water looks like as a gas. [5]

Draw: Describe:

1. Choose one of the other three substances listed in the menu on the right. Investigate what happens when you add and remove heat from this substance. Use the buttons on the right to see this substance as a solid, liquid, and gas.

Substance: \_\_\_\_\_\_\_\_\_\_\_\_\_ [1]

1. Draw and describe what you see [5]

Draw: Describe:

1. How was the substance you chose similar to water in each state of matter? [2]
2. How was the substance you chose different to water in each state of matter? [2]