

Name \_\_\_\_\_

Period \_\_\_\_\_

Partner \_\_\_\_\_

## Kinetic Molecular Theory Computer Simulation

**Objective:** After this simulation, you will be able to describe heat and temperature in relation to the kinetic molecular theory.

### **Background:**

Go to this site to get a basic understanding of the Kinetic Molecular Theory.

[http://preparatorychemistry.com/KMT\\_flash.htm](http://preparatorychemistry.com/KMT_flash.htm)

*Identify the components of the KMT.*

- 1.
- 2.
- 3.
- 4.

Visit this site: <http://www.physicstutorials.org/home/heat-temperature-and-thermal-expansion/heat-and-heat-vs-temperature>

*Describe the main differences between heat and temperature.*

### **Activity 1: States of Matter**

Go to <http://phet.colorado.edu/en/simulation/states-of-matter-basics> and click "run now". Be patient and let it load. If you click it more than once it will take longer!

Explore all the variables and relationships in this simulation. Notice that there are two tabs at the top.

*Create an activity for this simulation that would help a middle school student that had never learned about the KMT. The activity should take the student no more than 20*

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*minutes to complete and they should have a solid understanding of the components of the KMT when they complete it. Write the steps in your activity here:*

### **Activity 2: Thermodynamic Equilibrium**

Go to: <http://jersey.uoregon.edu/vlab/Thermodynamics/index.html>

Complete the seven experiments at the bottom of the screen.

*Write a paragraph describing the key concepts that you learned from these experiments. Use evidence from the experiments and be sure to relate it to the KMT.*