# 10.1 Energy, Temperature, and Heat – Guided Reading

# Due Date:

Define the following terms:

* Energy –
* Potential energy –
* Kinetic energy –
* Law of conservation of energy –
* Work –
* State function –
* Temperature –
* Heat –
* System –
* Surroundings –
* Exothermic –
* Endothermic –

**A. The Nature of Energy**

What is the difference between kinetic and potential energy?

**B. Temperature and Heat**

What is the difference between molecules in hot water as opposed to cold water?

What will happen when a beaker of hot and cold water are mixed together?

Temperature is a measure of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ motions of the components of an object. \_\_\_\_\_\_\_\_\_\_ is the flow of energy due to a temperature difference. The random motions of the components of an object constitute the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of that object. The flow of energy called \_\_\_\_\_\_\_\_\_\_\_ is the way in which \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is transferred from a \_\_\_\_\_\_\_\_\_\_\_ object to a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ object.

**C. Exothermic and Endothermic Processes**

Draw a picture to represent what occurs in exothermic and endothermic reactions

Where does the energy, released as heat, come from in an exothermic reaction?