Assignment:\_\_\_\_ Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Exothermic vs. Endothermic Reactions**

**\_\_\_\_\_\_\_\_\_\_ is involved in all \_\_\_\_\_\_\_\_\_ processes.**

**Chemical Changes** – chemical reactions always involve energy changes

* During a chemical reaction…
  + Energy is \_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ between chemicals OR energy is \_\_\_\_\_\_\_\_\_\_\_\_\_ when new \_\_\_\_\_\_\_\_ are \_\_\_\_\_\_\_\_\_\_\_

**Physical Chances** – changed in state always involve energy changes

* Energy is \_\_\_\_\_\_\_\_\_\_ to matter in order for it to \_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Energy is \_\_\_\_\_\_\_\_\_\_\_ during \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Exothermic Reaction** – a chemical reaction in which \_\_\_\_\_\_\_\_\_\_\_ is \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as \_\_\_\_\_\_\_\_

* The \_\_\_\_\_\_\_\_\_\_\_\_\_ of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is \_\_\_\_\_\_\_\_\_\_\_\_ than the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Example Equation:
* Exothermic reactions \_\_\_\_\_\_\_\_\_\_\_\_ their \_\_\_\_\_\_\_\_\_\_ (\_\_\_\_\_\_\_) which is why they make the surrounding feel \_\_\_\_\_\_\_\_\_\_\_
* List two examples from the pictures:
* Sketch a graph below of an exothermic reaction:

**Endothermic Reaction** – a chemical reaction in which \_\_\_\_\_\_\_\_\_ is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* The \_\_\_\_\_\_\_\_\_\_ have \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ than the \_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Example Equation:
* Endothermic reactions \_\_\_\_\_\_\_\_\_\_\_ surrounding \_\_\_\_\_\_\_ during the reaction so they feel \_\_\_\_\_\_\_\_\_\_\_\_ because there is \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ in the form of heat
* Describe an example:
* Sketch a graph below of an endothermic reaction:

**Sample Questions:**