Name: _____ Per:_____

Endothermic vs Exothermic Worksheet

1. **Define exothermic and endothermic.**

   exothermic:

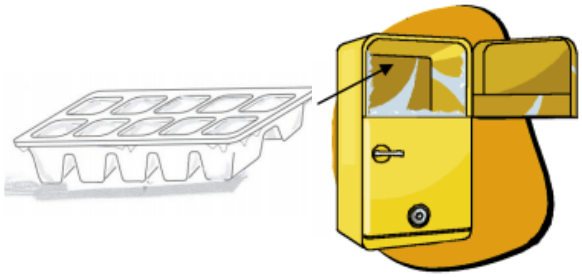
   endothermic:

2. **Ice cube melting on a counter top:**

   a. Draw arrows showing which direction heat is being transferred (in or out of) the ice cube.
   b. For the ice cube, is this process endothermic or exothermic? Explain.

   c. For the surroundings, is the process endothermic or exothermic? Explain.

3. **Water freezing in an ice cube tray in the freezer:**



   a. Draw arrows showing which direction heat is being transferred when the ice cube tray is placed in the freezer.
   b. For the water, is the process endothermic or exothermic? Explain.

   c. In order for things to cool in a refrigerator, heat must be transferred away from the food. Where does this heat ends up going?

4. **Boiling water on the stove:**

   a. Draw arrows showing which direction heat is being transferred in the image to the right.
   b. Water (*l*) to water (g): is this process endothermic or exothermic? Explain.

   c. When is it colder outside? (a) while its raining or (b) after it rains? Explain.

5. **State whether the six phase changes are endothermic or exothermic.**

Melting:_____ **Freezing:**_____
Boiling: _____ **Condensing:** _____
Subliming: _____ **Deposing:** _____

ON THE BACK:

6. **Draw the potential energy diagrams for an endothermic and an exothermic system.**