Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Test Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Energy Study Guide

Define the following

Conduction: Heat transfer through two objects touching.

Convection: Uneven heating and cooling through a liquid and a gas.

Radiation: The transfer of heat through air (electromagnetic waves).

3 examples of convection

1. Heat moving within a pot that is being heated

2. Uneven heating and cooling within the ocean.

3. Wind

3 examples of conduction

1. Touching a hot stove

2. Ironing clothes

3. Washing your hands with warm water

3 examples of radiation

\*1. Sun shining on \_\_\_\_\_\_\_\_\_.

2. Campfire heating a person or area.

3. Space heater warming a room.

Materials that transfer heat easily are called **Conductors.** Materials that slow the transfer of heat are called **Insulators.**

Name 4 conductors of heat (Metal)

1. Copper

2. Gold

3. Iron

4. Steel

Name 4 insulators of heat

1. Wool or cotton (cloth)

2. Rubber

3. Plastic

4. Styrofoam

Discuss one of the science labs we completed during this unit and explain the how it relates to conduction, convection, or radiation

1. We watched the video about pouring cold water into hot water. The cold water sunk to the bottom because it was denser. Then the hot water rose and created a convection cell that flowed until the water was the same temperature.
2. We also did the dancing penny experiment where we heated a frozen bottle with our hands through conduction. The bottle warmed up heating the air inside the bottle that was touching the side of the bottle through conduction. This caused the hot air to rise and the cold air to sink creating a convection cell which flowed until the temperature became the same.