**Thermal Energy, Temperature and Heat Answers**

**Thermal energy** is the energy within a system due to the vibrations and movement of molecules and atoms.

The movement of atoms is an example of what type of energy? kinetic energy

**Temperature** is the measure of the average thermal energy in a system or body.

What are the three most commonly used temperature scales? Fahrenheit, Celsius and Kelvin.

**Heat** is the transfer of thermal energy across systems or within a single system.

What are the three types of heat transfer? Conduction, convection and radiation

**Conduction** is the transfer of heat by atomic movement due to contact from systems of high temperature to systems of lower temperature.

Engineered example? Pot on a burner Example in nature? Animals “cooling off” in a pond

**Convection** is the transfer and movement of heat by bulk flow of fluids.

Engineered example? Boiling water Example in nature? An elephant’s ears

**Radiation** is the transfer of heat from the absorbance and emission of electromagnetic waves.

Engineered example? Microwave oven Example in nature? Warmth from the sun