**1.3.3 Thermodynamics**

**Introductions:** Think back to the last time someone complained about a door being left open. What did you notice about the temperature within the room as a result of the open door? In Activity 1.3.3 you will investigate the effects of work, thermal energy, and energy on a system, as in the case of the room with the door left open.

**Instructions:** Answer the following questions as your teacher guides the Introduction to Thermodynamics presentation. Answer the questions using complete sentences and use your own words

Define thermodynamics-

List three examples of a thermodynamic system

Define thermal energy-

Define temperature-

**Fill in the table below with the correct scale and unit.**

|  |  |  |
| --- | --- | --- |
| **Scale** | **Freezing point of water** | **Boiling point of water** |
| Celsius |  |  |
| Fahrenheit |  |  |
| Kelvin |  |  |

Define absolute zero-

Define thermal equilibrium-

Define the Zeroth Law of Thermodynamics-

Define the First Law of Thermodynamics

List two ways thermal energy can be increased in a system-

Define the Second Law of Thermodynamics-

Define entropy-

Define convection-

List two examples of convection-

Define conduction-

List two examples of conduction-

Conduction equations:

Define the following variables:

Q = k=

m = A=

c = L=

P = Δt =

Solve the word problem below:

A 1.00 kg piece of aluminum metal at 90.0 °C is placed in 4.00 liters (= 4.00 kg) of water at 25.0 °C. Determine the final temperature (Tf).

List all known values.

List all unknown values.

Select equations.

Apply known values.

Solve.