Assignment 1

Page 1

1. True or False: The heating effect in a closed system is always less than the cooling effect in the same system.

2. True or False: The total energy of a system includes kinetic, potential, and thermal energy.

3. True or False: Heat transfer is only possible across a temperature difference.

Page 2

1. A 5 kg object is moving at 10 m/s. What is its kinetic energy?

2. A 100 kg object is falling from a height of 100 m. What is its potential energy?

Page 3

1. What is the specific heat of water? What is its temperature change when 100 grams of water at 20°C is heated to 30°C?

2. A 2 kg object is moving with an initial velocity of 10 m/s. If a force of 5 N acts on the object for 2 seconds, what is its final velocity?

Page 4

1. A 1000 kg car is traveling at 50 km/h. How much work is done to stop the car completely?

2. A 2 kg object is moving with an initial velocity of 10 m/s. If a force of 5 N acts on the object for 2 seconds, what is its final velocity?