Name _____ JMJ Date _____
Period _____ Miss Pisciotta

Chapter 6 Packet: Answers in NOTEBOOK!

Lesson 1

HW #1

1. Describe the relationship between the average kinetic energy and air temperature.
2. What tool is used to measure temperature?
3. List three temperature scales. Then write the boiling and freezing points of water on each scale.
4. On what does the rate at which heating occurs depend?

HW #2: Fill in the blank.

1. Anything that moves has _____ energy.
2. Potential energy is _____ in the interactions between objects or particles.
3. The _____ the particles in an object are from each other, the _____ the potential energy will be.
4. The air's temperature depends on how _____ the air particles move.
5. Temperature represents the average _____ energy of particles.
6. Temperature and _____ energy are related, but they are not the same.
7. A _____ thermometer is a common type of thermometer.
8. If a material is at _____, the particles in the material are not moving and do not have kinetic energy.
9. The rate at which heating occurs depends on the difference in _____ between the two objects.

HW #3

1. Convert 140° F to Celsius.
2. Convert 25° C to Fahrenheit.
3. A temperature of 100 °C is equivalent to what Fahrenheit temperature?
4. Convert 14°F to Celsius.
5. If a solution has a temperature of -20°C, what is the temperature of the solution in degrees Fahrenheit?
6. A cup of tea has a temperature of 158°F. What is the temperature of the tea in degrees Celsius?

HW #4

1. Define thermal energy and temperature.
2. Explain why the ice and water have different amounts of thermal energy if they have the same temperature?
3. Explain how mechanical energy and thermal energy can be different if they have the same components.
4. Identify the term used to describe the movement of thermal energy and describe the direction in which thermal energy always moves.

Lesson 2

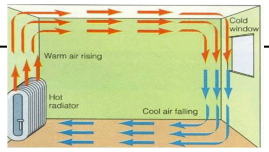
HW #5: Write the correct answer into the sentence.

The amount of (thermal energy/mechanical energy) it takes to increase the temperature of 1 kg of a material by (1 K/1°C) is called specific heat. Every material has its own specific heat. It is (easy/difficult) to change the temperature of a material that has a low specific heat, but (easy/difficult) to change the temperature of a material that has a high specific heat.

Thermal conductors have a (higher/lower) specific heat than thermal insulators. As a result, it takes (more/ less) thermal energy to increase a thermal conductor's temperature than it takes to increase the temperature of a thermal insulator by the same amount. The specific heat of water is particularly (high/low). Therefore, it takes a (small/ large) amount of energy to increase or decrease the temperature of water. The (high/ low) specific heat of water has many beneficial effects.

Homework #6 MUST BE DONE ON LOOSELEAF

1) Explain these three pictures and why they demonstrate the transfer of thermal energy.
2) Through which process does a cold glass of water outside get warmed?
3) Name three conductors:
4) Name three insulators:
5) Insulators have (high or low) specific heat. Conductors have (high or low) specific heat.
6) What happens during thermal contraction?
7) What happens during thermal expansion?
8) How do bulb thermometers demonstrate thermal expansion in a liquid?
9) Why can convection only take place in liquids or gases and not in solids?
10) What do the color and direction of the arrows indicate? When does this convection cycle end? → → →



Lesson 3

HW #7

A) heating appliance B) thermostat C) refrigerator

1. a device that converts electric energy into thermal energy
2. a device that uses EE to pump thermal energy from a cooler to a warmer location
3. most contain a bimetallic coil
4. curling irons, coffee makers, and clothes iron
5. a device tat regulates the temperature of a system
6. kitchen refrigerators, toasters, coffee makers, and ovens are equipped with these
7. transfer thermal energy from one place to another
8. thermal energy from inside transfers to the coolant, keeping the inside cold

HW #8

1._____ cannot be created or destroyed.
2. Coolant in a refrigerator moves _____ energy from one place to another.
3. A _____ coil is made up of two types of metal joined together and bent into a coil.
4. What is a heat engine? Why is it not efficient?
5. Describe the conversion of energy in a heat engine.
6. What type of heat engine is used by most cars, buses, boats, trucks, and lawn mowers?

Place these sentences in the correct form of TE

The sun shines on you through a window in your home.
You hold a bowl of hot soup that warms your hands.
Light from a lamp shines on you and warms you up.
Steam from a hot bowl of soup warms your face as you lean over it.
You drink a cup of hot apple cider and it warms your throat.
Hot air from the heater warms the air above it.
A pot of food gets heated up by sitting on a hot burner.
After a day at the beach, you need some aloe for your sunburn.

Radiation

Definition

Examples

conduction

Definition

Examples

convection

Definition

Examples