Name \_\_\_\_Key\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_

Thermal Energy Study Guide (20 Points)

My Test is on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| *1) Thermal energy* *2) Heat* *3) Conduction**4) radiation**5) convection**6.) Convection Current* | *6) Specific Heat**7) gas**8) liquid**9)solid**10.) contract* | *11) thermal expansion**12.) Law of conservation of energy* *13.) Temperature*  |

Complete each statement with a vocabulary word. You may use a word more than one time

1. The total energy ( kinetic and potential of all the particles in a substance is called *Thermal energy* \_.
2. The movement of thermal energy from a warmer object to a cooler object is called **Heat** \_.
3. Heat is transferred from one particle of matter to another without the movement of matter itself in a process called \_**Convection**.
4. The transfer of energy by electromagnetic waves is called **Radiation**\_.
5. The amount of energy required to raise the temperature of 1 kilogram of a substance by 1 kelvin is called its **Specific Heat**
6. The forms, or states of matter are **Solid , Liquid, Gas**
7. **Liquid** has no definite shape but has a definite volume.
8. The expanding of matter when it is heated is known as **Thermal Expansion**\_.
9. Heated air moves from baseboard heaters to the rest of a room in a process called **Convection**\_.
10. A measure of the average kinetic energy of the individual particles in an object is called \_**Temprature**.
11. In an effort to reduce a school’s environmental impact, a school board is planning to install solar panels on the roof to collect sunlight.

What is the energy conversion performed by these panels?

|  |  |
| --- | --- |
| a. | Sound energy is converted to electrical energy  |
| **b.** | **Light energy is converted into electrical energy**  |
| c. | Heat energy is converted into light energy  |
| d. | Electrical energy is converted into sound energy  |
|  |  |

Using a Diagram

The diagram below shows the possible energy transformations that can occur when energy is generated to do work

14. There are 3 energy transformations that take place when a light is turned on. What are they?

1. **Conduction/Electrical**

**2. Light**

**3. Thermal**

1. **What energy transformation(s) takes place when you place a pot on a stove and boil a pot of water?**

**Conduction ( the pot touching the fire on the stove) >>>>Convection (the water boiling)**

1. . Describe how the Law of Conservation of Energy relates to the diagram. Give an example to support your description-**Answers will vary**