

Thermal (Heat) Energy– worksheet

Name: _____

1. What is the difference between thermal (heat) energy and temperature? (define)

2. In what **state of matter** would a substance have the **highest average kinetic energy** or as we commonly call it -- **temperature**?
 - A. particles of all phases have the same kinetic energy
 - B. the gas phase
 - C. the solid phase
 - D. the liquid phase

3. For the following examples, **indicate what kind of heat transfer** takes place by entering the abbreviations **CON for conduction**, **COV for convection**, and **RAD for radiation** in the blank provided:

____ water heating on the stove
____ a iron frying pan heating on the stove
____ the handle on a spoon sitting in a cup of hot coffee heats up
____ sunshine
____ feeling the heat of a campfire as you walk passed it
____ the blower from the furnace goes on and heats the room
____ you pick up an ice cube and your fingers get cold

4. What type of heat transfer takes place in fluids?
 - A. conduction
 - B. convection
 - C. radiation
 - D. electromagnetic waves

5. Materials that prevent heat flow are
 - A. usually metals
 - B. conductors
 - C. insulators

 - D. radiators

6. True or False: Glass, plastic, and air are good insulators.

7. Most metals are
 - A. poor conductors of heat
 - B. good insulators
 - C. excellent conductors of heat
 - D. all the above