

**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