Name _____ Date _____ Class _____

**Content Practice A** **LESSON 2**

# Thermal Energy Transfers

**Directions:** *On each line, write the term from the word bank that correctly completes each sentence. Each term is used only once.*

| | | |
|---|---|---|
| **conduction** | **convection** | **convection current** |
| **radiation** | **specific heat** | **thermal conduction** |
| **thermal contraction** | **thermal expansion** | **thermal insulator** |

1. The movement of fluids up and down in a cycle because of convection is a _____.

2. _____ is the transfer of thermal energy by the movement of particles from one part of a material to another.

3. A _____ is a material through which thermal energy flows easily.

4. _____ is the amount of thermal energy it takes to increase the temperature of 1kg of a material by 1°C.

5. _____ is the transfer of thermal energy from one material to another by electromagnetic waves.

6. A _____ is a decrease in a material's volume when the temperature is decreased.

7. The transfer of thermal energy between materials because of collisions between the particles is called _____.

8. A material through which thermal energy does not flow easily is a _____.

9. _____ is an increase in a material's volume when the temperature is increased.

Name _____ Date _____ Class _____

**Key Concept Builder** **LESSON 2**

# Thermal Energy Transfers

**Key Concept** What is the effect of having a small specific heat?

**Directions:** *Circle the term in parentheses that correctly completes each sentence.*

The amount of **(1.)** (thermal energy/mechanical energy) it takes to increase the temperature of 1 kg of a material by **(2.)** (1 K/1°C) is called specific heat. Every material has its own specific heat. It is **(3.)** (easy/difficult) to change the temperature of a material that has a low specific heat, but **(4.)** (easy/difficult) to change the temperature of a material that has a high specific heat.

Thermal conductors have a **(5.)** (higher/lower) specific heat than thermal insulators. As a result, it takes **(6.)** (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 **(7.)** (high/low). Therefore, it takes a **(8.)** (small/large) amount of energy to increase or decrease the temperature of water. The **(9.)** (high/low) specific heat of water has many beneficial effects.