

# STUDY GUIDE

# Chapter 6

## Temperature and Heat

*In each of the following statements, the italicized term has been scrambled. Unscramble the term and write it on the line provided.*

- \_\_\_\_\_ 1. A measure of the average kinetic energy of the particles in a sample of matter is an object's *pentarerute*.
- \_\_\_\_\_ 2. The total energy of the particles that make up a material is *matherl genrey*.
- \_\_\_\_\_ 3. Energy that flows from something with a higher temperature to something with a lower temperature is *eath gyener*.
- \_\_\_\_\_ 4. Thermal energy includes both kinetic energy and *toplaiten nrgyee*.
- \_\_\_\_\_ 5. The higher the temperature of a material, the faster its particles are moving and the greater their average *cteinik rengey*.

*For each group of three terms, write a sentence that explains how the terms are related. Underline the terms in your sentences.*

- 1. thermal energy, particles, energy

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- 2. temperature, particles, kinetic energy

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- 3. heat energy, temperature, flow

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- 4. joules, heat, work

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- 5. thermal energy, kinetic energy, potential energy

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**REINFORCEMENT****Chapter 6****Temperature and Heat**

Determine whether the italicized term makes each sentence true or false. If the statement is true, write the word "true" in the blank. If the statement is false, write in the blank the term that makes the statement true.

- \_\_\_\_\_ 1. The particles that make up a sample of matter have *kinetic energy*.
- \_\_\_\_\_ 2. The more mass a material has, the greater its *temperature*.
- \_\_\_\_\_ 3. The higher the temperature of a material, the *slower* its particles are moving and the greater their average kinetic energy.
- \_\_\_\_\_ 4. Thermal energy is the *total energy* of the particles that make up a substance.
- \_\_\_\_\_ 5. The energy that flows from something with a higher temperature to something with a lower temperature is *thermal energy*.
- \_\_\_\_\_ 6. Heat is measured in *Celsius degrees*.
- \_\_\_\_\_ 7. Heat and *work* both involve transfers of energy.
- \_\_\_\_\_ 8. At 22°C, a football has *less* thermal energy when it is sitting on the ground than when it is moving through the air.
- \_\_\_\_\_ 9. The kinetic and potential energy of the particles in a substance determine its *thermal energy*.
- \_\_\_\_\_ 10. Different kinds of matter have *different* thermal energies.
- \_\_\_\_\_ 11. Heat energy flows from *warmer to cooler* materials.
- \_\_\_\_\_ 12. Mass, kind of matter, and the average kinetic energy of its particles determine the *temperature* of a material.
- \_\_\_\_\_ 13. Temperature is measured in *degrees*.
- \_\_\_\_\_ 14. The particles in a cup of cold coffee move *faster* than the particles in an equal-sized cup of hot coffee.
- \_\_\_\_\_ 15. Energy transferred when a force acts over a distance is *heat energy*.