

# Energy and Chemical Change

## Reviewing Vocabulary

Match the definition in Column A with the term in Column B.

### Column A

- \_\_\_\_\_ 1. The ability to do work or produce heat
- \_\_\_\_\_ 2. States that energy cannot be created or destroyed
- \_\_\_\_\_ 3. Energy flowing from a warmer to a cooler object
- \_\_\_\_\_ 4. The study of heat changes from chemical reactions and phase changes
- \_\_\_\_\_ 5. Energy stored in a substance because of its composition
- \_\_\_\_\_ 6. Heat required to raise the temperature of one gram of a substance by one degree Celsius
- \_\_\_\_\_ 7. An insulated device measuring the heat absorbed or released during a chemical or physical process
- \_\_\_\_\_ 8. The system plus the surroundings
- \_\_\_\_\_ 9. States that spontaneous processes always proceed in such a way that the entropy of the universe increases
- \_\_\_\_\_ 10. Everything in the universe other than the system
- \_\_\_\_\_ 11. The change in enthalpy in a chemical reaction
- \_\_\_\_\_ 12. A balanced chemical equation that includes the physical states of all reactants and products and the energy change that accompanies the reaction
- \_\_\_\_\_ 13. A system's heat content at constant pressure
- \_\_\_\_\_ 14. Energy required to vaporize one mole of a liquid
- \_\_\_\_\_ 15. Enthalpy change occurring when one mole of a compound in its standard state forms from its constituent elements in their standard states
- \_\_\_\_\_ 16. Energy required to melt one mole of a solid
- \_\_\_\_\_ 17. A physical or chemical change without outside intervention
- \_\_\_\_\_ 18. The enthalpy change for the complete burning of one mole of a substance
- \_\_\_\_\_ 19. Energy that is available to do work
- \_\_\_\_\_ 20. The SI unit of heat and energy

### Column B

- a. calorimeter
- b. standard enthalpy (heat) of formation
- c. chemical potential energy
- d. heat
- e. law of conservation of energy
- f. specific heat
- g. free energy
- h. energy
- i. thermochemical equation
- j. enthalpy (heat) of reaction
- k. molar enthalpy (heat) of fusion
- l. molar enthalpy (heat) of vaporization
- m. second law of thermodynamics
- n. spontaneous process
- o. joule
- p. thermochemistry
- q. enthalpy (heat) of combustion
- r. universe
- s. enthalpy
- t. surroundings