Forms Of Energy

1 Which form of energy is transferred when an ice cube at 0°C is placed in a beaker of water at 50°C?
(1) chemical (3) nuclear
(2) electrical (4) thermal

2 Which list includes three forms of energy?
(1) thermal, nuclear, electronegativity
(2) thermal, chemical, electromagnetic
(3) temperature, nuclear, electromagnetic
(4) temperature, chemical, electronegativity

3 Which term identifies a form of energy?
(1) combustion (3) thermal
(2) exothermic (4) electrolytic

4 The joule is a unit of
(1) concentration (3) pressure
(2) energy (4) volume

5 Which form of energy is associated with the random motion of particles in a gas?
(1) chemical (3) nuclear
(2) electrical (4) thermal

6 Which form of energy is associated with the random motion of the particles in a sample of water?
(1) chemical energy (3) nuclear energy
(2) electrical energy (4) thermal energy

7 Which list includes three forms of energy?
(1) chemical, mechanical, electromagnetic
(2) chemical, mechanical, temperature
(3) thermal, pressure, electromagnetic
(4) thermal, pressure, temperature

8 Which unit is used to express an amount of thermal energy?
(1) gram (3) joule
(2) mole (4) pascal

9 Three forms of energy are
(1) chemical, exothermic, and temperature
(2) chemical, thermal, and electromagnetic
(3) electrical, nuclear, and temperature
(4) electrical, mechanical, and endothermic

10 Which type of energy is associated with the random motion of atoms and molecules in a sample of air?
(1) chemical energy (3) nuclear energy
(2) electrical energy (4) thermal energy

Base your answers to questions 11 on the information below and on your knowledge of chemistry.

Carbon dioxide, CO_2, changes from the solid phase to the gas phase at 1 atm and 194.5 K. In the solid phase, CO_2 is often called dry ice. When dry ice sublimes in air at 298 K, the water vapor in the air can condense, forming a fog of small water droplets. This fog is often used for special effects at concerts and in movie-making.

11 At 1 atm and 190. K, compare the amount of thermal energy in a 1.0-kilogram block of dry ice to the amount of thermal energy in a 2.0-kilogram block of dry ice.

Answer Keys

1 4

2 2

3 3

4 2

5 4

6 4

7 1

8 3

9 2

10 4

11 Allow 1 credit. Acceptable responses include, but are not limited to:

- The block of dry ice with less mass contains less thermal energy.
- There is more thermal energy in the 2.0-kg block.