HYBRID GRID

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. Which of the following increases when an object becomes warmer?

a.	chemical energy
b.	elastic potential energy
c.	nuclear energy
d.	thermal energy

____ 2. The energy stored in gasoline is

a.	chemical energy.	c.	mechanical energy.
b.	electromagnetic energy.	d.	nuclear energy.

____ 3. Solar cells convert what type of energy into electrical energy?

a.	chemical	c.	nuclear
b.	electromagnetic	d.	thermal

____ 4. Nonrenewable energy resources do not include which of the following?

a.	coal	c.	oil
b.	hydrogen fuel cells	d.	uranium

____ 5. A drawback of solar energy is that it

a.	cannot be converted directly into electrical energy.
b.	depends on the climate.
c.	produces water pollution.
d.	is not a renewable resource.

____ 6. Which of the following is a unit of temperature?

a.	Celsius degree	c.	kilogram
b.	joule	d.	calorie

____ 7. Energy from the sun reaches Earth mostly by

a.	conduction.	c.	radiation.
b.	convection.	d.	thermal expansion.

____ 8. Matter is needed to transfer thermal energy by

a.	conduction.	c.	radiation.

b.	convection.	d.	both a and b

Completion

Complete each statement.

9. Wind turbines convert _____ energy into electrical energy.
10. The process of changing energy from one form to another is called energy _____.
11. Flat collector plates through which water flows are found in _____ solar energy systems.
12. Geothermal energy, in addition to being renewable, offers the benefit of being _____.
13. Heat is the transfer of thermal energy because of a(an) _____ difference.
14. The transfer of energy as waves moving through space is called _____.
15. A material that conducts thermal energy well is called a thermal _____.
16. The study of the conversion between heat and other forms of energy is called _____.

Short Answer

17. What are two examples of renewable energy resources?
18. What is a characteristic of a renewable energy resource?

HYBRID GRID
Answer Section

MULTIPLE CHOICE

1. ANS: D PTS: 1 DIF: L1
   OBJ: 15.1.5 Give examples of the major forms of energy and explain how each is produced.
   STA: MS.2.c

2. ANS: A PTS: 1 DIF: L1
   OBJ: 15.1.5 Give examples of the major forms of energy and explain how each is produced.
   STA: MS.2.c

3. ANS: B PTS: 1 DIF: L2
   OBJ: 15.2.1 Describe conversions of energy from one form to another.
   STA: MS.2.c

4. ANS: B PTS: 1 DIF: L2
   OBJ: 15.3.1 Classify energy resources as renewable or nonrenewable.

5. ANS: B PTS: 1 DIF: L1
   OBJ: 15.3.1 Classify energy resources as renewable or nonrenewable. | 15.3.2 Evaluate benefits and drawbacks of different energy sources.

6. ANS: A PTS: 1 DIF: L1
   OBJ: 16.1.1 Explain how heat and work transfer energy. STA: MS.2.b

7. ANS: C PTS: 1 DIF: L1
   OBJ: 16.2.1 Describe conduction, convection, and radiation and identify which of these is occurring in a given situation.

8. ANS: D PTS: 1 DIF: L2
   OBJ: 16.2.1 Describe conduction, convection, and radiation and identify which of these is occurring in a given situation.

COMPLETION

9. ANS:
   kinetic or
   mechanical

   PTS: 1 DIF: L1
   OBJ: 15.2.1 Describe conversions of energy from one form to another.
   STA: MS.2.c

10. ANS: conversion

PTS: 1 DIF: L1
OBJ: 15.2.1 Describe conversions of energy from one form to another.
STA: MS.2.c

11. ANS: active

PTS: 1 DIF: L2
OBJ: 15.3.1 Classify energy resources as renewable or nonrenewable.

12. ANS: nonpolluting

PTS: 1 DIF: L1
OBJ: 15.3.2 Evaluate benefits and drawbacks of different energy sources.

13. ANS: temperature

PTS: 1 DIF: L2 OBJ: 16.1.1 Explain how heat and work transfer energy.
STA: MS.2.b

14. ANS: radiation

PTS: 1 DIF: L1
OBJ: 16.2.1 Describe conduction, convection, and radiation and identify which of these is occurring in a given situation.

15. ANS: conductor

PTS: 1 DIF: L1
OBJ: 16.2.2 Classify materials as thermal conductors or thermal insulators.

16. ANS: thermodynamics

PTS: 1 DIF: L1
OBJ: 16.2.3 Apply the law of conservation of energy to conversions between thermal energy and other forms of energy. STA: MS.2.c

SHORT ANSWER

17. ANS:
Accept any two of the following: hydroelectric, solar (passive or active), geothermal, wind, biomass, nuclear fusion (future source).

PTS: 1 DIF: L1
OBJ: 15.3.1 Classify energy resources as renewable or nonrenewable.

18. ANS:
Accept either of the following: The resource can be replaced in a relatively short period of time. The resource originates either directly or indirectly from the sun.

PTS: 1 DIF: L1
OBJ: 15.3.1 Classify energy resources as renewable or nonrenewable.