Answer Key

Directed Reading A

SECTION: WHAT IS ENERGY?

1. B
2. energy
3. from the first object to the second object
4. joules
5. C
6. C
7. The greater the mass, the greater its kinetic energy.
8. Speed has a greater effect on kinetic energy than mass.
9. potential
10. gravitational potential energy
11. height
12. gravitational energy = weight × height
13. weight
14. An object's height is a measure of how far the object has to fall.
15. A
16. mechanical energy = potential energy + kinetic energy
17. kinetic
18. potential
19. The pin slows down as it moves upward.
20. A
21. C
22. G
23. E
24. B
25. D
26. Particles move faster at higher temperatures than at lower temperatures.
27. potential
28. Generators turn magnets inside loops of wire. This makes electrical energy move through the wire.
29. potential energy
30. kinetic energy
31. light energy
32. Fusion is when two or more nuclei join together. Fission is when the nucleus of a large atom splits apart.

SECTION: ENERGY CONVERSIONS

1. energy conversion
2. C
3. B
4. D
5. kinetic
6. potential
7. A
8. A
9. B
10. C
11. sun
12. Photosynthesis is the process in which plants use light energy from the sun to make new substances that have chemical energy.
13. The chemical energy is converted to thermal energy when wood from the tree is burned.
14. Electrical energy is converted into kinetic energy when the fan blades spin. Electrical energy is converted to thermal energy when the wires heat up.
15. Answers may vary. Sample answer: electrical energy, to sound energy with an alarm clock; electrical energy to light energy with a lamp
16. machine
17. kinetic
18. radiometer
19. The dark side absorbs more light energy, causing the gases to heat and make the molecules move faster. This causes the vanes to turn.

SECTION: CONSERVATION OF ENERGY

1. A
2. C
3. C
4. between the cars and the track and the cars and the air
5. on the top of the first hill
6. potential
7. closed system
8. thermal
9. kinetic, thermal, sound
10. law of conservation of energy
11. energy

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