

Name _____ Date _____

4th Grade Science- Chapter 1 Test

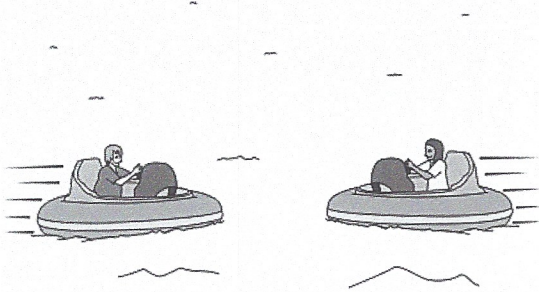
Write the letter on the line that matches the definition.

A. energy	F. heat	K. electric charge
B. potential energy	G. radiation	L. electric current
C. kinetic energy	H. light	M. conductor
D. speed	I. sound	N. insulator
E. collision	J. wave	O. resistor

- _____ a device used to control the flow of electricity.
- _____ the transfer of thermal energy.
- _____ the ability to do work or cause change.
- _____ a property that causes matter to have a force when it is placed near other charged matter.
- _____ energy that can be heard.
- _____ a material that energy can easily flow through.
- _____ stored energy in an object.
- _____ a form of energy that we can see.
- _____ the energy of a moving object.
- _____ a material that stops the flow of electric current.
- _____ the distance of an object that moves in a specific amount of time.
- _____ a disturbance that travels in a pattern and carries energy.
- _____ the action of one object bumping into another.
- _____ the flow of charged particles in the same direction
- _____ energy that travels as a wave.

21. Anya wants to build an electric circuit. She has used a wire to connect one side of a battery to a light bulb. What does she need to do next to make her circuit complete?
- Anya needs to use a second wire to connect the other side of the battery to the light bulb.
 - Anya needs to use another source of energy to connect the battery to a switch.
 - Anya needs to use a second wire that connects the light bulb to a switch.
 - Anya needs to use another source of energy to connect the light bulb to the battery.

22. The picture shows two bumper boats powered by electric motors. The boats are about to collide.



Which sentence is the **best** prediction for what will happen when the two motorized bumper boats collide?
The speed and direction of both boats will remain the same.

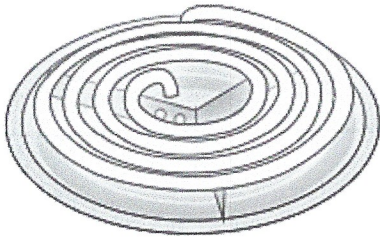
- - The speed and direction of both boats will change.
 - Both boats will continue to move in the same direction.
 - Both boats will stop moving.
23. The table shows the speeds of two objects of the same mass before and after they collide.

Collision of Two Moving Objects		
Object	Speed before collision	Speed after collision
X	2 meters per second	4 meters per second
Y	5 meters per second	?

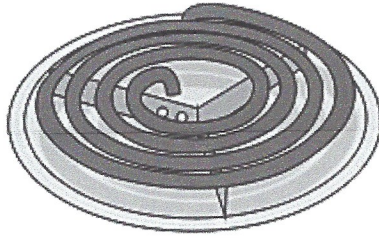
Based on the information in the table, which statement is true?

- The potential energy of both objects is the same before and after the collision.
 - Energy was transferred from object Y to object X.
 - Energy was lost when object X collided with object Y.
 - The speed of object Y after the collision is 11 meters per second.
24. In which action does a golf club transfer the **most** energy?
- A golf club is carried by a golfer.
 - A golf club is removed from a golf bag.
 - A golf club rests on a golf course.
 - A golf club strikes a golf ball.

25. Many people use electric stoves to cook food. The pictures show burners on an electric stove. One burner is on. The other burner is off.



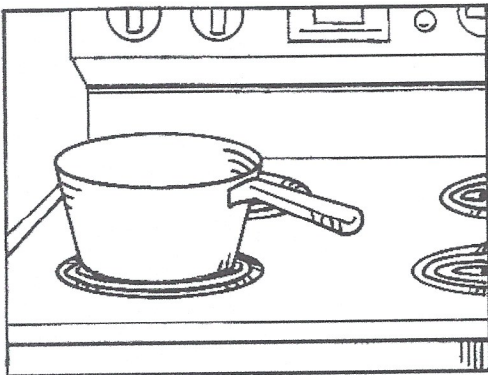
Electric burner turned on



Electric burner turned off

Which statement about the burner is likely true?

- A. The burner is made of a material that is a resistor. It changes electric energy into light and heat.
 - B. The burner is made of a material that is an insulator. It stops energy from flowing out of the burner.
 - C. The burner is made of a material that is hot. It allows heat energy to flow through a circuit.
 - D. The burner is made of a material that is an energy source. It controls the amount of heat produced by the light.
26. Which statement about energy is true?
- A. Energy is a wave.
 - B. Energy cannot travel through a vacuum.
 - C. Energy has the ability to cause motion.
 - D. Energy cannot change form.
27. The stove burner heats up the metal pot. This is because of _____

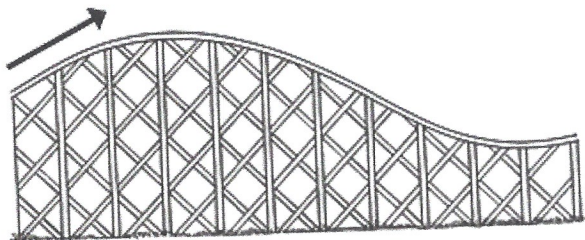


- A. solar energy.
- B. convection.
- C. insulation.
- D. conduction.

28. When you drop a rubber ball, gravity pulls the ball to the floor. When the ball hits the floor, it becomes deformed and stores energy it had. This energy helps the ball bounce back. What sequence describes these energy changes?

- A. kinetic \rightarrow potential \rightarrow kinetic \rightarrow potential
- B. potential \rightarrow kinetic \rightarrow potential \rightarrow kinetic
- C. potential \rightarrow kinetic \rightarrow thermal \rightarrow potential
- D. thermal \rightarrow kinetic \rightarrow potential \rightarrow kinetic

29. Look at the picture.



What kind of energy conversion takes place as a roller coaster car climbs to the top of the first hill?

- A. elastic energy \rightarrow chemical energy
 - B. kinetic energy \rightarrow chemical energy
 - C. potential energy \rightarrow kinetic energy
 - D. kinetic energy \rightarrow potential energy
30. Why is plastic a good choice for covering electrical wires?
- A. It allows electricity in one wire to come in contact with other wires more easily.
 - B. It speeds up the flow of electricity through the wires.
 - C. It is a good insulator of electricity, so it keeps the current from going outside the wire.
 - D. It is a good conductor of electricity, so it increases the flow of energy.
31. An automobile moves down a straight road at a constant speed. What about the car is changing?
- A. its direction
 - B. its velocity
 - C. its acceleration
 - D. its position
32. What does speed measure?
- A. the rate at which an object changes where it is located
 - B. the distance an object moves from one position to another
 - C. the direction an object moves when it changes position
 - D. the position as an object moves
33. If a train travels 60 kilometers in one half-hour, what is its speed?

- A. 120 kilometers per half-hour
- B. 30 kilometers per half-hour
- C. 120 kilometers per hour
- D. 60 kilometers per hour

34. What label is a measurement of speed?

- A. kilometers between cities
- B. kilometers per hour
- C. kilometers driven
- D. kilometers per gallon

35. In what parts of an electric circuit would you expect to find an insulator and a conductor?

- A. insulator: wires
conductor: source
- B. insulator: bulb
conductor: wire covering
- C. insulator: wire covering
conductor: wires
- D. insulator: bulb
conductor: switch