Test A

Unit 3 Evaluation

Name: _____ Class: _____ Date: _____

Mark the correct answers with a ✔.

1 Which form of energy corresponds to the movement of charges through a conductor?

A. Wind energy.
B. Thermal energy
C. Electric energy.
D. Light energy.

2 What type of energy could be generated in the Sahara Desert?

A. Hydroelectric energy.
B. Kinetic energy.
C. Chemical energy.
D. Solar energy.

3 What forms of energy does a blender transform electric energy into?

A. Kinetic and wind energy.
B. Kinetic and sound energy.
C. Kinetic and thermal energy.
D. Kinetic and chemical energy.

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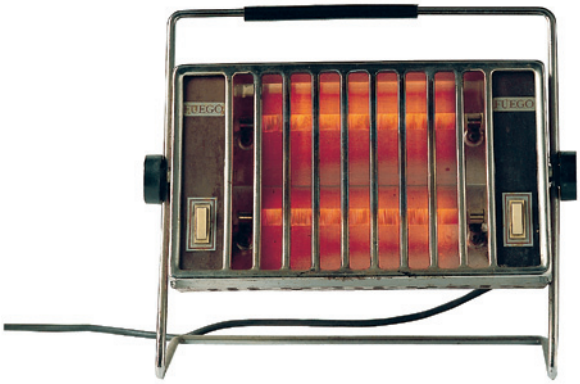
4 What do these devices have in common?



A. They transform sound energy into electric energy.

B. They transform electric energy into sound energy.

C. They transform thermal energy into electric energy.

D. They transform electric energy into thermal energy.

5 What did James Maxwell contribute to our understanding of electric energy?

A. He proved that amber could attract small objects when rubbed.

B. He developed the motor and electric generator.

C. He developed techniques to make integrated circuits.

D. He described the interaction between electrical and magnetic phenomena.

6 Which is a source of nonrenewable energy?

A. A wind farm.

B. A hydroelectric dam.

C. A solar energy plant.

D. A coal power plant.

7 Why does a lightbulb heat up when it is turned on?

A. Because it emits energy in the form of heat and light.

B. Because it emits energy in the form of light and sound.

C. Because it emits energy in the form of heat and sound.

D. Because it emits energy in the form of heat and motion.

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8 Which device transforms electric energy into thermal energy?

A. A hair dryer.

B. An electric fan.

C. An electric motor.

D. An electric stove.

9 Which statement is true about electric charges?

A. They transport matter and energy.

B. They move through matter.

C. Only the positive charges move through matter.

D. Only the negative charges move through matter.

10 When electric charges in a current always flow in the same direction, what type of current is it?

A. Alternating current.

B. Recorded current.

C. Direct current.

D. Semi-alternating current.

11 In our homes, we use alternating current. How can this current be described?

A. It maintains its polarity.

B. It divides the electric current into three disconnected phases.

C. It continually changes polarity.

D. It does not change polarity.

12 Which of the following elements transforms energy in an electric circuit?

A. A receptor.

B. A generator.

C. A switch.

D. An electric cable.

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13 Which of the following symbols represents a generator in an electric circuit?

A.

B.

C.

D.

14 What is the function of a switch on a flashlight?

A. It provides energy to the circuit.

B. It transforms electric energy.

C. It allows the current to flow.

D. It redirects the light from the lightbulb.

15 Look at this circuit. What will happen when the switch is turned on?

A. The lightbulb will not turn on.

B. The lightbulb's temperature will rise.

C. The lightbulb will give off more light.

D. The lightbulb will give off less light.

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16 Batteries are sources of electric energy and produce an electric current in a circuit like a flashlight. What type of current does a battery generate?

A. Alternating current.

B. Recorded current.

C. Direct current.

D. Semi-alternating current.

17 How can you check that an electric current is flowing through the electric circuit in a flashlight?

I. Check that the lightbulb turns on.

II. Check that the battery is the correct type.

III. Check that all the electric cables are connected.

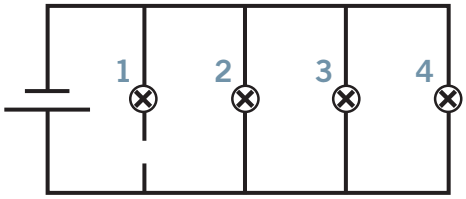
A. Only I.

B. Only II.

C. I and II.

D. I and III.

18 In this parallel circuit, which lightbulb will not turn on?



A. Lightbulb 1.

B. Lightbulb 2.

C. Lightbulb 3.

D. None of the lightbulbs will turn on.

19 Which material resists the flow of electric charges?

A. Metal.

B. Copper.

C. Plastic.

D. Aluminum.

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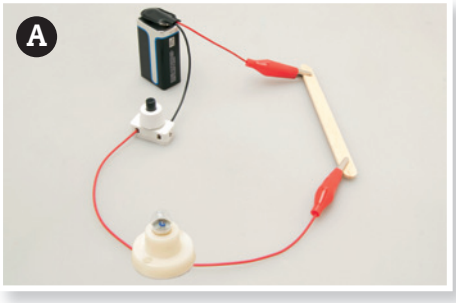
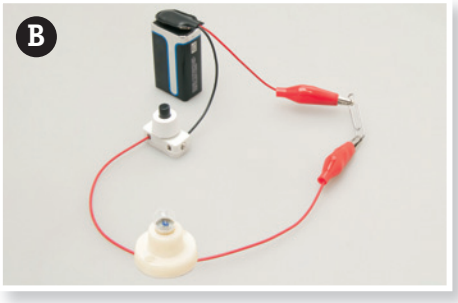
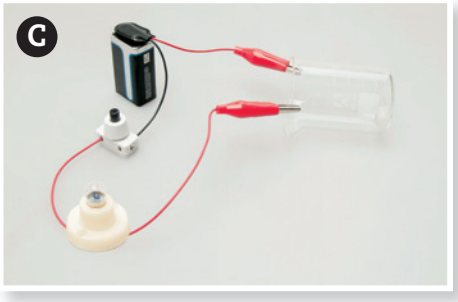
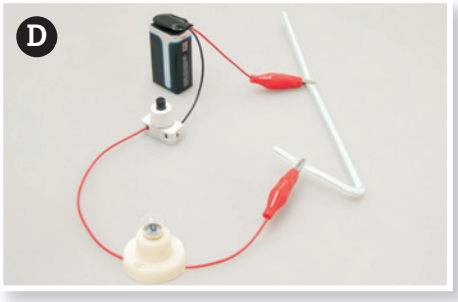
20 In which circuit or circuits will the lightbulb turn on?









A. Only in circuit B.

B. Only in circuit C.

C. In circuits B and C.

D. In circuits A, B and C.

21 Why is the inside of the socket made from a conductive material?

A. So that the electric current can flow through the lightbulb.

B. So that the electric current cannot flow through the lightbulb.

C. So that the electric current is insulated and flows through the lightbulb.

D. So that the electric current is insulated and does not flow through the lightbulb.

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22 Which of the following measures represent safe ways of operating electric devices?

I. Place cables below rugs.

II. Disconnect a plug by touching the covered part and not the metal.

III. Disconnect a lamp before changing the lightbulb.

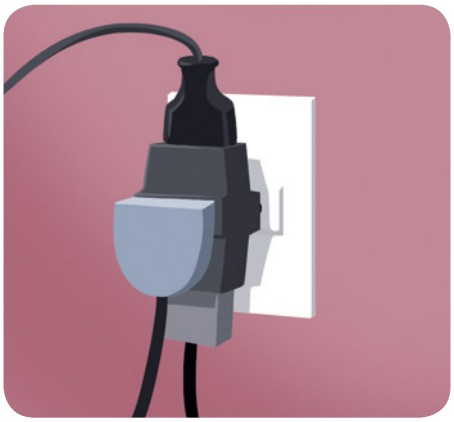
A. I and II.

B. I and III.

C. II and III.

D. I, II and III.

23 What does the image show?



A. A waste of electricity.

B. The correct way to use outlets.

C. A dangerous practice since the plug is an insulator.

D. A dangerous practice because the outlet is being used for too many devices.

24 Why should you not touch electric devices with wet hands?

A. Because this can cause electrocution since water is a conductor.

B. Because the devices could rust.

C. Because the devices could stop working.

D. Because this can stop the electric current.

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25 What would happen if an electrician cut an electric cable with pliers that did not have rubber handles?

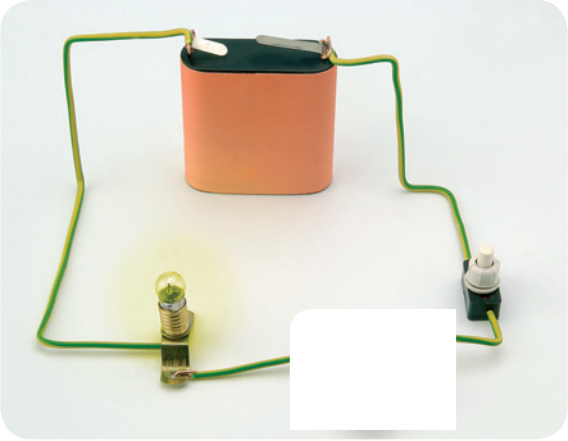
A. Nothing, because pliers are made of metal, which is a good insulator.

B. The electrician's hands would be cut because pliers are sharp.

C. The electrician could be electrocuted because metal is a conductor.

D. The electrician's hands would get dirty since metal rusts.

26 What can be added to this electric circuit for it to work?



A. A piece of glass.

B. A screw.

C. Rubber.

D. An ice-cream stick.

27 What is the function of a circuit breaker?

A. To detect a short circuit.

B. To stop electric current.

C. To measure electric current.

D. To transform a direct current into an alternating current.

28 Which material is a good insulator?

A. Copper.

B. Wood.

C. Aluminum.

D. Wire.

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29 Which is not part of an electric circuit?

A. A flashlight.

B. A wire.

C. A generator.

D. A switch.

30 Which is not part of a home electricity network?

A. Outlet box.

B. Circuit breaker.

C. Voltage tester.

D. Switches.

31 Which statement is false?

A. Switches can prevent or allow current to flow.

B. Any electric device is a receptor in a circuit.

C. The electricity in our homes flows through power lines to the sockets.

D. A battery is a kind of generator.

32 Describe the contribution of two scientists to our knowledge of electricity.

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Test B

Unit 3 Evaluation

Name: _____ Class: _____ Date: _____

Mark the correct answers with a ✔.

1 Which form of energy is found in substances like food, coal, wood and batteries?

A. Sound energy.
B. Kinetic energy.
C. Chemical energy.
D. Electric energy.

2 Which form of energy could be generated by the River Amazon?

A. Wind energy.
B. Kinetic energy.
C. Hydroelectric energy.
D. Light energy.

3 Which device changes electric energy into light energy?

A. A radio.
B. A hair dryer.
C. A lamp.
D. An electric fan.

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4 What do these places have in common?

A. They all produce thermal energy.

B. They all produce chemical energy.

C. They all produce electric energy.

D. They all produce light energy.

5 What was Alessandro Volta's contribution to electric energy?

A. He made the first lightbulbs.

B. He invented the first electric battery.

C. He built the first integrated circuit.

D. He developed the first electric motor.

6 What type of power plant transforms thermal energy into electric energy?

A. Wind farms.

B. Hydroelectric dams.

C. Solar energy plants.

D. Geothermal energy plants.

7 How do electric fans create wind?

A. Wind energy causes the fan's blades to move, which creates wind.

B. Sound energy causes the fan's blades to move, which creates wind.

C. Electric energy causes the fan's blades to move, which creates wind.

D. Hydraulic energy causes the fan's blades to move, which creates wind.

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8 What type of energy does a washing machine transform electric energy into?

A. Thermal.

B. Kinetic.

C. Potential.

D. Hydraulic.

9 What is a characteristic of a direct current?

A. The current flows in space.

B. The current gets lost in its trajectory.

C. The current changes the direction in which it flows.

D. The current always moves in the same direction.

10 The electric energy that reaches our homes is characterized by having constant changes in direction, circulation and polarization. What type of current is it?

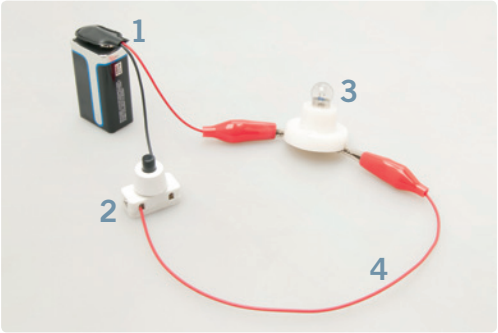
A. Alternating current.

B. Variable current.

C. Recorded current.

D. Direct current.

11 What is the function of component 3?



A. It reduces the flow of energy in the circuit.

B. It allows the current to flow in the circuit.

C. It stops the current from flowing in the circuit.

D. It transforms the electric energy into another type of energy.

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12 Which element of an electric circuit starts or stops the flow of current?

A. A receptor.

B. A generator.

C. A switch.

D. An electric cable.

13 What type of current flows in this electric circuit?

A. Alternating current.

B. Variable current.

C. Recorded current.

D. Direct current.

14 What happens when an electric motor is not connected to an energy generator?

A. It does not function because there is no current flowing.

B. It gives off more heat because of the current.

C. Its energy increases because of the current.

D. It functions because of the current.

15 When one of the receptors in a series circuit is damaged, what effect does this have on the circuit?

A. The current does not flow and the circuit does not function.

B. The current still flows even if the receptor is damaged.

C. The current passes through the receptor to reach the rest of the circuit.

D. The current passes through the damaged receptor, but the rest of the circuit stops functioning.

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16 In the past, Christmas tree lights formed part of a series circuit, but now they are part of a parallel circuit. Why do you think this change was made?

A. So that if one light is damaged, the rest will not work.

B. So that if one light is damaged, the rest will still work.

C. To increase the temperature of the lights and avoid the risk of starting fires.

D. To decrease the temperature of the lights and avoid the risk of starting fires.

17 Which component of a flashlight indicates that there is current flowing?

A. The battery.

B. The electric cables.

C. The switch.

D. The lightbulb.

18 Which statement or statements are correct?

I. Conductors allow electric current to flow in an electric circuit.

II. Electric current reaches our homes through power lines.

III. A circuit breaker measures the amount of energy used in a home.

A. Only I.

B. I and II.

C. I and III.

D. I, II and III.

19 Which material does not allow electric charges to flow?

A. Gold.

B. Steel

C. Plastic.

D. Aluminum.

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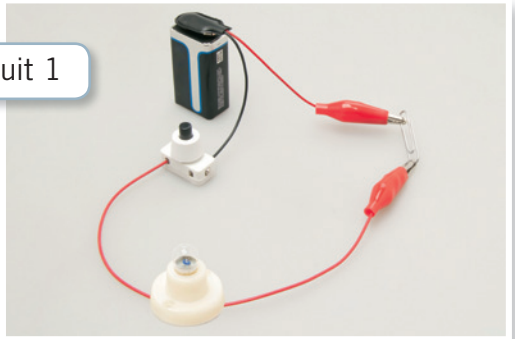
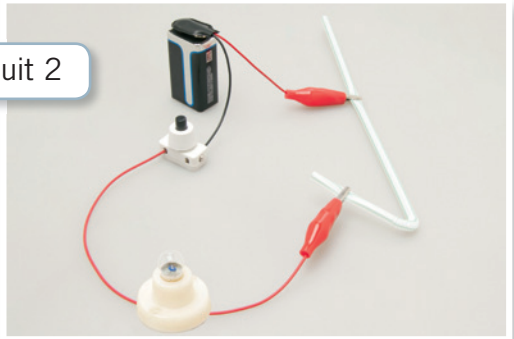
20 Why will the lightbulb of only one of the circuits below turn on?

Circuit 1



Circuit 2



A. Because circuit 1 is connected to an insulator that stops the current from passing through.

B. Because circuit 1 is connected to a conductor that stops the current from passing through.

C. Because circuit 2 is connected to an insulator that stops the current from passing through.

D. Because circuit 2 is connected to a conductor that stops the current from passing through.

21 Copper is a good conductor of electricity. What happens to electric charges when they come in contact with copper?

A. They flow freely.

B. They have trouble moving.

C. They flow freely through only one part of the copper.

D. They have trouble moving through only one part of the copper.

22 What is the function of a voltage tester?

A. It allows a current to pass through it.

B. It detects the presence of a current.

C. It stops a current from passing through it.

D. It cuts the cables of a circuit.

23 Why should electronic devices not be used around water?

A. Because water is an insulator.

B. Because water is a conductor.

C. Because water will cause devices to rust.

D. Because water is a semiconductor of electricity.

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24 Why are electric cables covered in plastic?

A. Plastic is an insulator that allows current to flow only through the metal wires in the cables.

B. Plastic allows current to flow through the electric cables.

C. Plastic allows electric charges to flow through the electric cables.

D. Plastic is an insulator that allows current to flow out of the electric cables.

25 What would happen to a lightbulb if it was connected to an electric circuit with an eraser?

A. The lightbulb would turn on.

B. The lightbulb would not turn on.

C. The lightbulb would shine more brightly.

D. The lightbulb would shine less brightly.

26 Which image shows a safe way to handle electric devices?

A.

B.

C.

D.

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27 Which is a safe recommendation for using electric devices?

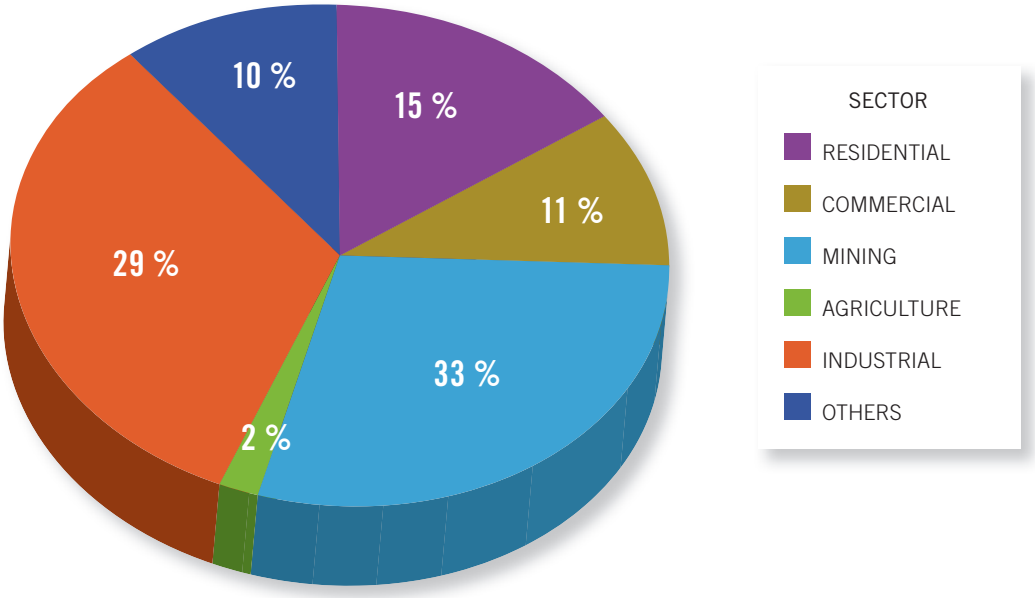
A. Touch electric cables only when they are covered in plastic.

B. Cut electric cables with scissors.

C. Change a lightbulb while the lamp is plugged in.

D. Touch electronic devices with wet hands.

28 Analyze the graph. Which sector consumes the most energy?



A. Mining.

B. Industrial.

C. Commercial.

D. Residential.

29 Which is the best conductor of electricity?

A. Plastic.

B. Water.

C. Copper.

D. Glass.

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30 Which is part of a home electricity network?

A. Power lines.

B. Electricity meter.

C. Battery.

D. Adaptor.

31 Which statement about electricity is true?

A. Only positive charges flow in a circuit.

B. A circuit breaker protects an electric circuit.

C. A switch is a type of receptor.

D. All metals are conductors.

32 Describe the contribution of two scientists to our knowledge of electricity.

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