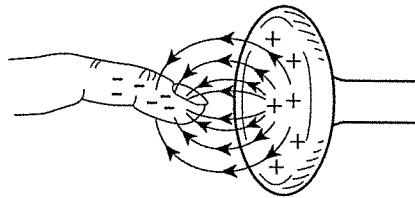


Review and Reinforce

Electric Charge and Static Electricity

Understanding Main Ideas

The person whose finger is shown below has walked across a carpet and is about to touch the doorknob. Answer the following questions on a separate sheet of paper.



1. Are the charges in the doorknob attracted or repelled by the charges in the finger? How can you tell?
2. What do the lines around the finger and doorknob represent?
3. One kind of static electricity is a result of electrons moving onto an object from another object. What is another way static electricity can build up on an object?

Building Vocabulary

Fill in the blank to complete each statement.

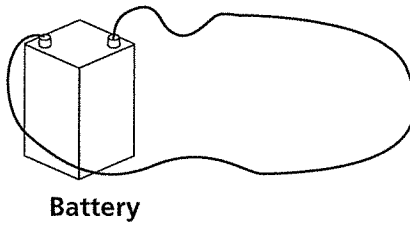
4. _____ force is the force between charged objects.
5. The buildup of charges on an object is called _____.
6. The law of _____ of charges states that charges are not created or destroyed but transferred.
7. The transfer of charge from one object to another by rubbing is called _____.
8. The loss of static electricity as electric charges transfer from one object to another is called _____.
9. An electric _____ is a region around a charged object where the object's electric force is exerted on other charged objects.
10. When the electric field of one object causes a transfer of electrons from one part to another in a second object, without the two objects touching, it is called _____.
11. The transfer of charge when electrons move from a charged object to another object by direct contact is called _____.

Review and Reinforce

Electric Current

Understanding Main Ideas

Study the diagram below, then answer the following questions on a separate sheet of paper.



1. When the wires are connected to the terminals of the battery, what causes electric current in the circuit?
2. What is the voltage source and what is the conductor in this circuit?
3. What are two ways you could alter the wire to increase the resistance in the electric circuit?

Building Vocabulary

Match each term with its definition by writing the letter of the correct definition in the right column on the line beside the term in the left column.

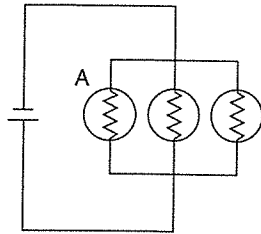
- | | |
|--|--|
| <p>4. ___ electric current</p> <p>5. ___ insulator</p> <p>6. ___ voltage</p> <p>7. ___ resistance</p> <p>8. ___ conductor</p> <p>9. ___ electric circuit</p> | <p>a. the difference in electrical potential energy per charge between two points in a circuit</p> <p>b. material through which charge can easily flow</p> <p>c. a complete, unbroken path through which electric charges can flow</p> <p>d. the continuous flow of electric charges through a material</p> <p>e. the measure of how difficult it is for charges to flow through a material</p> <p>f. material through which charge cannot easily flow</p> |
|--|--|

Review and Reinforce

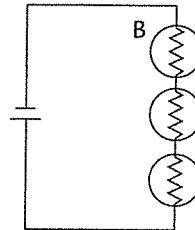
Electric Circuits

Understanding Main Ideas

Each of the circuit diagrams below shows a battery and three light bulbs. Study the circuits and then answer the questions in the spaces provided.



Circuit 1



Circuit 2

1. Which circuit is a series circuit? _____
2. Which circuit is a parallel circuit? _____
3. If bulb A goes out, what happens to the light in the other two bulbs in that circuit? _____
4. If bulb B goes out, what happens to the light in the other two bulbs in that circuit? _____
5. If a fourth bulb is added similar to the existing bulbs in Circuit 1, what happens to the resistance in the circuit? _____
6. If a fourth bulb is added similar to the existing bulbs in Circuit 2, what happens to the resistance in the circuit? _____
7. How many paths can current take in Circuit 1? _____
8. How many paths can current take in Circuit 2? _____

Building Vocabulary

Fill in the blank to complete each statement.

9. In a(n) _____ circuit, all parts are connected one after another along one path.
10. _____ says that resistance is equal to the voltage divided by the current.
11. In a(n) _____ circuit, the different parts of the circuit are on separate branches.

Review and Reinforce

Electric Power and Safety

Understanding Main Ideas

Answer the following questions in the spaces provided. Use a separate sheet of paper if you need more room.

1. What is the equation used to calculate power?

2. What is the equation used to calculate the total amount of energy used by an appliance?

3. Why is it important for people to avoid electric shocks?

Building Vocabulary

Fill in the blank to complete each statement.

4. A circuit is _____ when charges are able to flow directly from the circuit into Earth.
5. A(n) _____ is a device in a circuit that melts if there is too much current in it.
6. The _____ of an electrical plug connects the metal parts of appliances to the ground wire of a building.
7. A(n) _____ is a connection that allows current to take the path of least resistance.
8. A(n) _____ is a switch that stops the flow of current in a circuit if the circuit gets too hot.