

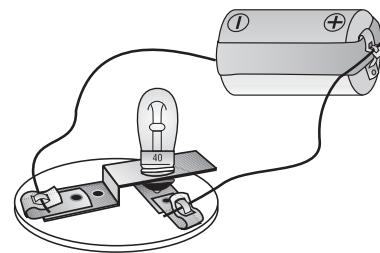
Electrical Circuits  
Unit Test

Name \_\_\_\_\_

Circle the correct letter for Questions #1 – 8.

1. Which type of wire is most resistant to the flow of electricity?
  - A. thick Nichrome wire
  - B. thin Nichrome wire
  - C. copper wire
  
2. When you add more bulbs in parallel to a circuit containing one bulb, the bulbs will:
  - A. get brighter
  - B. get dimmer
  - C. stay the same.
  
3. How well an object conducts electricity depends upon:
  - A. the material the object is made of.
  - B. the length of the object.
  - C. the thickness of the object.
  - D. all of the above.
  
4. A student built the circuit shown below to test if bulbs are working properly. The first five bulbs tested did not light. What should be done?

- A. check all wire connections.
- B. change the battery.
- C. try again using a different bulb.
- D. all of the above.



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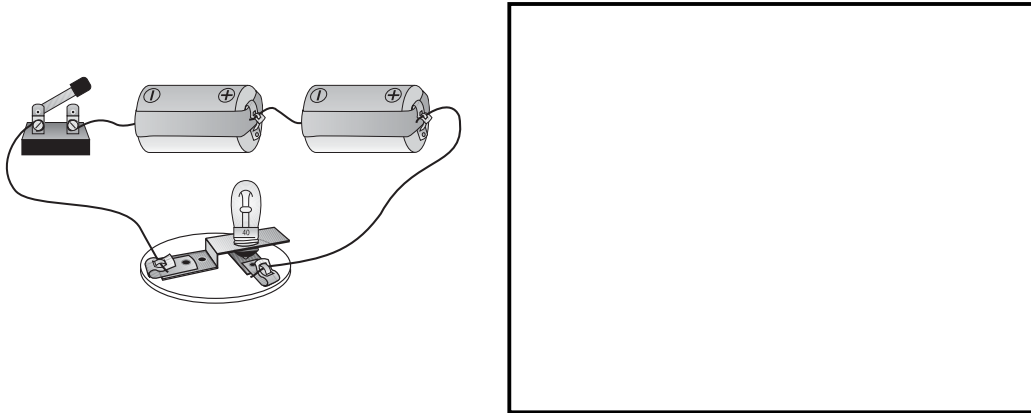
5. What part of the bulb lights up?
- A. terminal
  - B. filament
  - C. glass bead
  - D. support wire
6. What part of a battery and a bulb are the wires in a circuit connected?
- A. terminals
  - B. conductors
  - C. insulators
  - D. resistance
7. When batteries are connected in a circuit, it is important to connect them:
- A. positive to positive
  - B. positive to negative
  - C. negative to negative
  - D. up and down
8. In a series circuit, how many paths are there for the electricity to flow:
- A. one
  - B. two
  - C. three
  - D. four
9. It is easier to find a burned out bulb in a circuit that has bulbs connected in parallel than in a circuit with bulbs connected in series. Explain.

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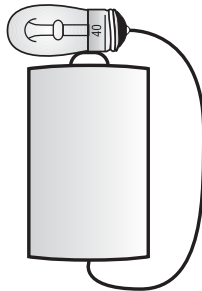
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10. Use the box to the right to draw a wiring diagram of the circuit below.



11. In the simple circuit shown below, energy is being transformed. Name the different types of energy and where they are being transformed in the circuit. (*Hint: The bulb is lit.*)



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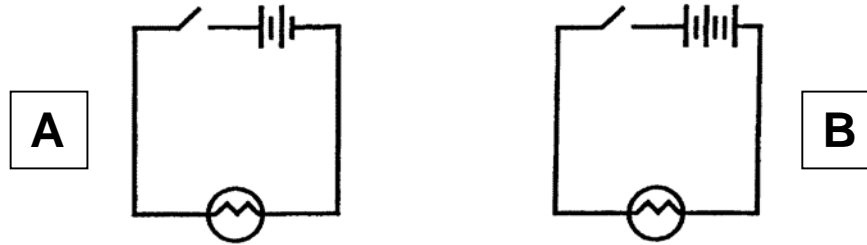
12. Sasha placed a bulb in a bulb holder and connected two wires to it. She decided to plug the wires into an electrical outlet in the wall to see what would happen. On the lines below, explain why Sasha should not plug the wires into the electric outlet.

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13. On the lines below, explain why the bulb in Circuit A will be brighter than the bulb in Circuit B.



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14. Name three items that are conductors of electricity:

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_

15. Name three items that are insulators:

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_