**KEY - Electricity Pre Post Test**

Choose the most correct answer.

\_\_D\_\_\_ 1. Which of the following is a *Secondary Energy* source?

1. Coal c. Natural Gas
2. Solar d. Electricity

\_\_A\_\_\_ 2. At a coal fueled electricity generation plant, the purpose of burning coal is to:

1. Create steam that turns a turbine.
2. Apply heat to the conducting wires.
3. To heat the conductor creating a magnetic field.
4. Provide a source of electrons.

\_\_B\_\_\_3. Current is measured in units called:

1. volts c. coulombs
2. amperes (amps) d. ohms

\_\_D\_\_\_4. Which of the following is considered a “load” in a circuit?

1. lamp c. motor
2. speaker d. all are loads

\_\_B\_\_ 5. To turn a switch “on”, you \_\_\_\_\_\_\_\_\_\_\_\_\_\_ it.

1. voltage c. pressurize
2. close d. open

\_\_C\_\_ 6. You have a flashlight with two 1.5 volt batteries wired in series. What is the electrical

pressure?

1. 1.5 volts c. 3 volts
2. 3 amps d. 1.5 ohms

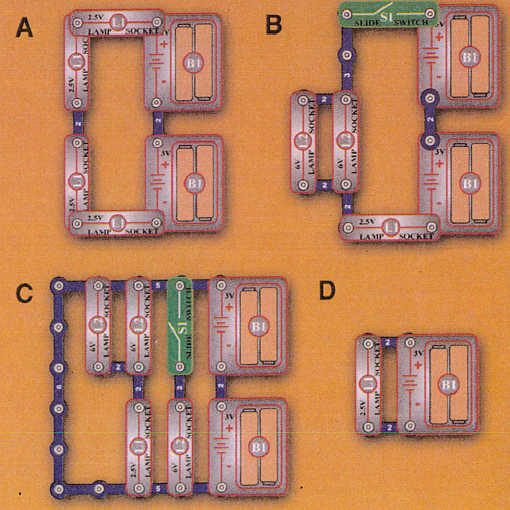
\_\_C\_\_7. Describe the brightness of a lamp when the circuit is wired in series with a motor running with a fan blade vs. without a fan blade.

1. The lamp is brighter. c. The lamp is not as bright.
2. The lamp is the same.

\_\_A\_\_8. If there is more than one continuous path for the electrons to flow, that circuit is wired in:

1. parallel circuit c. short circuit
2. series circuit d. long circuit

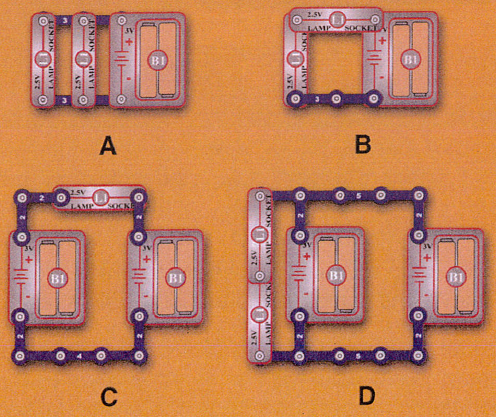
\_\_C\_\_ 9. Which of these is a short circuit?



\_\_D\_\_ 10. Explain what happens to the fan blade when you reverse the polarity in a motor.

1. The fan speeds up. c. The fan slows down.
2. The fan stops moving. d. The fan changes direction.

\_\_A\_\_ 11. Which of the following circuits would have the brightest bulb?



\_\_\_A\_\_ 12.  **If there is a 1.5V battery and a bulb on a simple series circuit and the battery is changed to 3V, what happens to the bulb?**

1. gets brighter c. gets dimmer
2. turns off d. a short circuit occurs

\_\_\_\_D\_\_ 13. Which of the following are sources of voltage?

1. generators c. solar panel
2. battery d. all of these

\_\_A\_\_ 14. Which of the following is true about LED’s?

1. They block current flow in one direction.
2. LED stands for Low Electron Diode.
3. They do not require a resistor in a circuit to work.
4. They can only produce white light.

\_\_A\_\_ 15. One of the causes of electrical pressure that causes a current to flow is:

1. The negative charges of the electrons causes them to repel each other.
2. The positive charges in the conductor repels the electrons.
3. The conductive material in the wire attracts protons.
4. The insulating material blocks the flow of electrons.

\_\_\_D\_\_ 16. What happens when you cover a photoresistor?

1. Increase voltage and decrease pressure.
2. Increase resistance and increase wattage.
3. Decrease current and decrease resistance.
4. Increase resistance and decrease current.

\_\_\_B\_\_ 17. In a circuit that has a light dimmer, it most likely is wired with which type of electronic?

1. capacitor c. transistor
2. variable resistor d. photoresistor

\_\_\_C\_\_ 18. Placing resistors in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ increases the total resistance while placing them in

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ decreases total resistance.

1. parallel; series c. series; parallel
2. watt; amperes d. series; ohm

\_\_\_B\_\_ 19. A circuit uses batteries to run a motor with a fan. How could you reduce the speed of the

motor?

1. Using more batteries to increase voltage
2. Place a lamp in series with the motor to reduce voltage to it.
3. Remove the fan from the motor.
4. None of the above

\_\_D\_\_\_ 20. Nearly all electrical energy eventually is transformed to:

1. information b. magnetic c. chemical energy d. thermal energy