**Electricity Pre/Post Test KEY**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Choose correct answer.

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

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

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

1. **To heat water to 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.

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

1. volts c. coulombs
2. **amperes** d. ohms

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

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

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

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

\_\_\_\_ 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

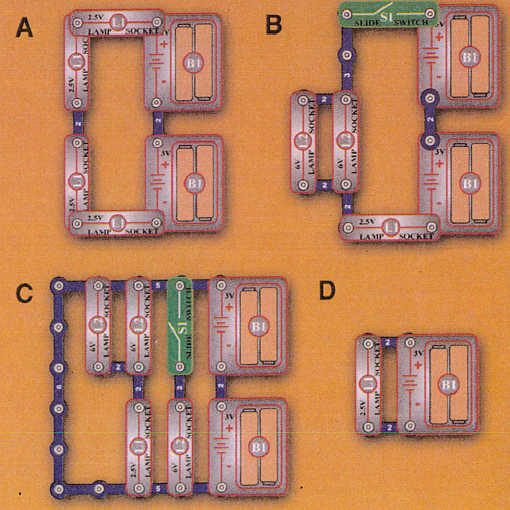
\_\_\_\_\_7. Which of the following would all be connected in parallel?

1. A lamp and a switch on the wall controlling it.
2. **The streetlamps in your neighborhood.**
3. A string of holiday lights that all go out if one is loose.
4. None of these are connected in parallel.

\_\_\_\_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

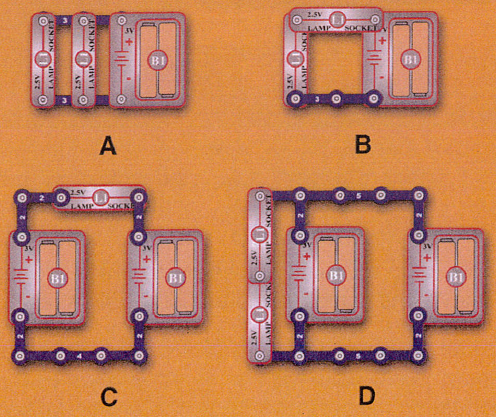
\_\_\_\_ 9. Which of these is a short circuit?



\_\_\_\_ 10. Explain what happens when you reverse the polarity in a motor.

1. The fan speeds up. c. The fan slows down.
2. The fan shuts down. **d. The fan changes direction.**

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



\_\_\_\_\_ 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. gets hotter d. a short circuit occurs

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

1. generator c. solar panel
2. battery **d. all of the above**

\_\_\_\_ 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.

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

1. **The negative charges of the electrons cause 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.

\_\_\_\_\_ 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.**

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

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

\_\_\_\_\_ 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

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

motor?

1. Use 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

\_\_\_\_\_\_ 20. Nearly all electricity eventually becomes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. information b. wasted c. chemical energy **d. thermal energy**