

Electricity Pre/Post Test KEY

Name _____

Choose correct answer.

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

- a. Coal
- b. Solar
- c. Natural Gas
- d. **Electricity**

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

- a. **To heat water to steam that turns a turbine.**
- b. Apply heat to the conducting wires.
- c. To heat the conductor creating a magnetic field.
- d. Provide a source of electrons.

_____ 3. Current is measured in units called:

- a. volts
- b. **amperes**
- c. coulombs
- d. ohms

_____ 4. Which of the following is considered a “load” in a circuit?

- a. lamp
- b. speaker
- c. motor
- d. **all are loads**

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

- a. voltage
- b. **close**
- c. pressurize
- d. open

_____ 6. You have a flashlight with two 1.5 volt batteries wired in series. What is the electrical pressure?

- a. 1.5 volts
- b. 3 amps
- c. **3 volts**
- d. 1.5 ohms

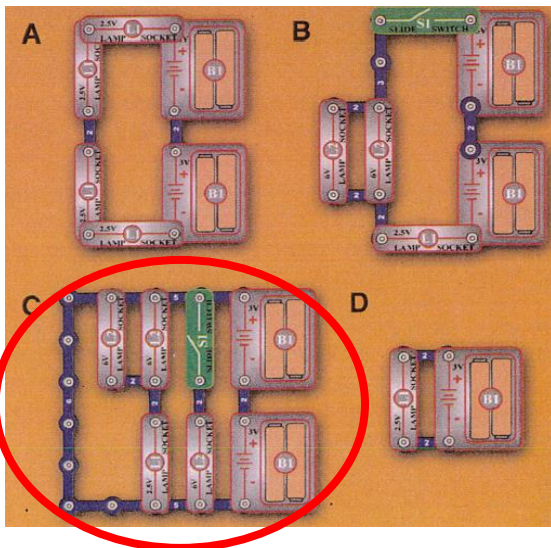
_____ 7. Which of the following would all be connected in parallel?

- a. A lamp and a switch on the wall controlling it.
- b. **The streetlamps in your neighborhood.**
- c. A string of holiday lights that all go out if one is loose.
- d. 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:

- a. **parallel circuit**
- b. series circuit
- c. short circuit
- d. long circuit

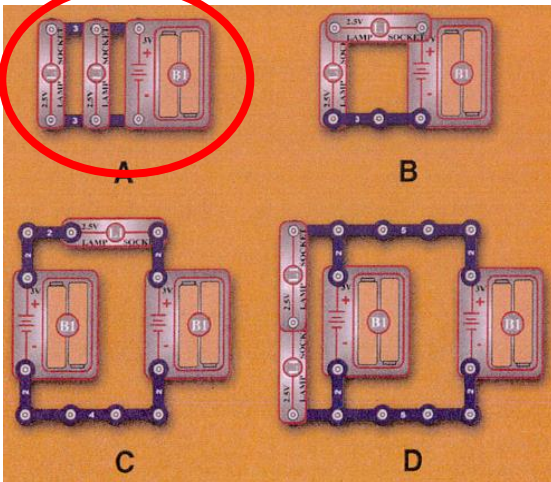
___ 9. Which of these is a short circuit?



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

- a. The fan speeds up.
- b. The fan shuts down.
- c. The fan slows 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?

- a. **gets brighter**
- b. gets hotter
- c. gets dimmer
- d. a short circuit occurs

___ 13. Which of the following are sources of voltage?

- a. generator
- b. battery
- c. solar panel
- d. **all of the above**

___ 14. Which of the following is true about LED's?

- a. **They block current flow in one direction.**
- b. LED stands for Low Electron Diode.
- c. They do not require a resistor in a circuit to work.
- d. They can only produce white light.

- _____ 15. One of the causes of electrical pressure that causes a current to flow is:
- a. **The negative charges of the electrons cause them to repel each other.**
 - b. The positive charges in the conductor repels the electrons.
 - c. The conductive material in the wire attracts protons.
 - d. The insulating material blocks the flow of electrons.
- _____ 16. What happens when you cover a photoresistor?
- a. Increase voltage and decrease pressure.
 - b. Increase resistance and increase wattage.
 - c. Decrease current and decrease resistance.
 - d. **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?
- a. capacitor
 - b. **variable resistor**
 - c. transistor
 - d. photoresistor
- _____ 18. Placing resistors in _____ increases the total resistance while placing them in _____ decreases total resistance.
- a. parallel; series
 - b. watt; amperes
 - c. **series; parallel**
 - d. series; ohm
- _____ 19. A circuit uses batteries to run a motor with a fan. How could you reduce the speed of the motor?
- a. Use more batteries to increase voltage
 - b. **Place a lamp in series with the motor to reduce voltage to it**
 - c. Remove the fan from the motor
 - d. None of the above
- _____ 20. Nearly all electricity eventually becomes _____.
- a. information
 - b. wasted
 - c. chemical energy
 - d. **thermal energy**