Answer the following in the space provided.

1. A material that allows electrons to move freely through it is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

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1. What three factors are required to create an electrical circuit?
2. Name the unit used to measure each of the following:  
     
   Current  
   Voltage  
   Resistance
3. What type of fire extinguisher should be used to fight an electrical fire?
4. What type of meter can be used to measure voltage, resistance and current?
5. What is done to the handles of pliers to help prevent electrical shock?
6. What are the best type of plier for bending loops in the end of wires?
7. A material that allows some electron movement is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
8. If a device has no tubes, but has various other electrical components in it, it is often referred to as being \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
9. Power(P) is measured in Watts (w). The formula for power is Power=Voltage x Current (P=VI) solve the following:  
   a) V=6v, I=24A, P=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ b)V=115v, I=15A, P=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
     
   c) V=\_\_\_\_\_\_\_\_\_\_\_\_\_, I=0.5A, P=600w d) V=1.5v, I=\_\_\_\_\_\_\_\_\_\_\_\_\_\_, P=24w
10. In an electrical circuit, what is the purpose of having a protection device?
11. What is the load in the circuit in a hand held flashlight?
12. Ohm’s law says that Current equals Voltage divided by Resistance. Use this formula to solve the following:  
      
    a) Current = 15 amps, Resistance = 1200 ohms, and Voltage = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
      
    b) Current = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, Resistance = 4000 ohms, and Voltage = 12 volts  
      
    c) Current = 5mA, Resistance = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, Voltage = 1.5 volts
13. Name two mechanical connectors.

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1. How are most household wires connected?
2. What is the purpose of flux and where is it generally found in electronic solder?
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the process of heating a soldering iron, applying solder and wiping it smooth.
4. Draw a circuit which has two bulbs and a switch wired in parallel.
5. Draw a circuit with three bulbs wired in series with a switch.

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