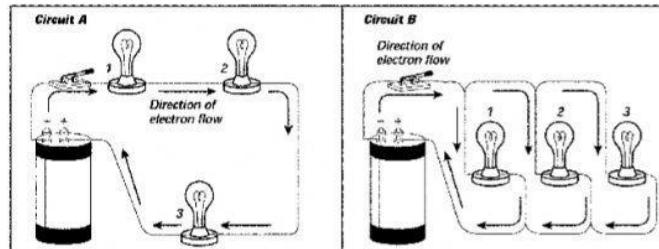


\_\_\_\_ 16. What happens if you break a magnet in half?  
 a. One half will have a north pole only and one half will have a south pole only.  
 b. Neither half will be able to attract or repel.  
 c. Each half will be a new magnet, with both a north and a south pole.  
 d. Neither half will have a pole.

\_\_\_\_ 17. What does a transistor do?  
 a. convert an analog signal into a digital signal  
 b. allow a current to flow in one direction only  
 c. amplify (change) an electronic signal  
 d. combine thousands of diodes and resistors

**Series and Parallel Circuits**



\_\_\_\_ 18. What would happen if the switch in circuit B was opened?  
 a. all of the bulbs would go out      c. only bulb 1 would go out  
 b. only bulb 2 would go out      d. only bulb 3 would go out

\_\_\_\_ 19. In circuit A, which bulb(s) would be the brightest?  
 a. 1 and 3 would be brightest      c. 1 would be the brightest  
 b. 2 would be the brightest      d. All would be the same

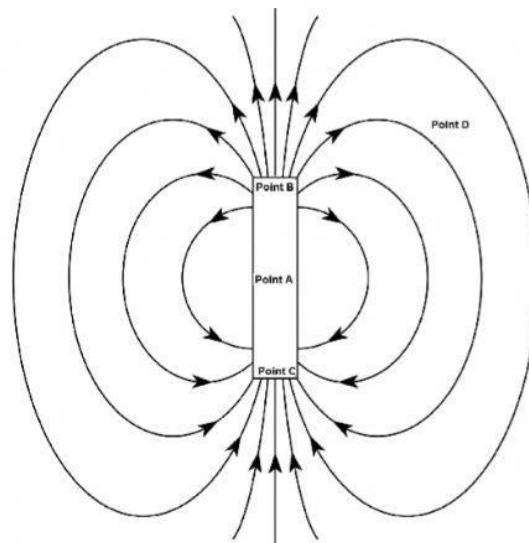
\_\_\_\_ 20. You can increase the strength of an electromagnet's field by  
 a. increasing the thickness of the insulation on the wire.  
 b. using a stronger ferromagnetic material for the core.  
 c. decreasing the number of loops in the wire.  
 d. decreasing the current in the wire.

\_\_\_\_ 21. Moving charges, like those in an electric current produce  
 a. protons      c. magnetic fields  
 b. electrons      d. neutrons

\_\_\_\_ 22. The ampere is a unit of  
 a. electric current.      c. magnetism.  
 b. temperature.      d. electric charge.

\_\_\_\_ 23. For charges to flow, the wire must always be connected in a closed path or  
 a. magnetic field line.      c. electrical resistance.  
 b. electric circuit.      d. magnetic pole.

\_\_\_\_ 24. Resistance is measured in a unit called the  
 a. ohm      c. colt  
 b. ampere      d. coulomb



\_\_\_\_ 25. At which point or points would the magnetic force be the strongest?  
 a. Point A      c. Point D  
 b. Points B and C      d. Points A, B and C