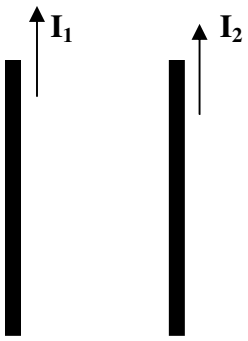
A-Day Due Thurs., May 14
B-Day: Due Fri., May 15

2009 PreAP Magnetism 3

You should first complete the regular physics homework: Magnetism 3.



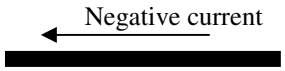
1. Two wires are parallel to each other and have current flowing in the same direction.
   A. Which direction is wire 1's magnetic field on the right side of wire 1?
   B. Draw B on the right side of wire 1.
   C. Using the direction of B you just found and the direction of I2, use the right hand rule to determine the direction of the magnetic force on wire 2.

   D. Is wire 2 attracted or repelled by wire 1?

   E. Is wire 1 attracted or repelled by wire 2?

2. Which direction does the magnetic field of the earth point?
3. A. A proton is moving east in the earth's magnetic field, which way is it deflected by the magnetic force?

   B. What will be the shape of the path the proton follows?



4. Electrons are flowing from right to left in a wire, as shown above.
   A. Which direction does the magnetic field lines point underneath the wire?
   B. Which direction does the magnetic field lines point on the bottom side of the wire?

5. What is the charge of a proton?
6. A proton is moving 583 km/s perpendicular to a magnetic field. If it feels a 6.06×10-12N force, what is the magnitude of the magnetic field?

7. A. Describe an unmagnetized piece of iron. Be sure to talk about domains.

   B. The piece of iron is then placed next to a magnet. Describe the iron.

8. A. Which pole of a magnet points north?

   B. Explain why.