

## Magnetism Review Homework

| [Magnetism](#) Multiple Choice | [Magnetism](#) - Fill In | [Magnetism Fill In 2](#) | [Magnetism Quiz](#)

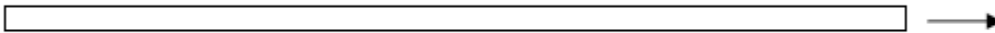
1. Magnetism is always present when electrical charges \_\_\_\_\_
2. The \_\_\_\_\_ pole of a compass is used to determine the direction of a magnetic field.
3. Label the left side of this bar magnet north and the right side south. Draw the magnetic field around the bar magnet. Be sure to show the direction of the flux lines.



4. Where is the magnetic field strongest? \_\_\_\_\_ What do the flux lines look like there?
5. Draw the flux line pattern between opposite (N and S) and like poles (N and N, S and S).  
**North poles**                      **2 South Poles**                      **North Pole and a South Pole**

5.a) Which setup above creates the greatest magnetic field? \_\_\_\_\_

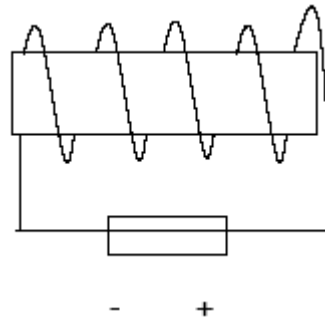
6. Draw the flux lines around this conductor with current moving to the right.



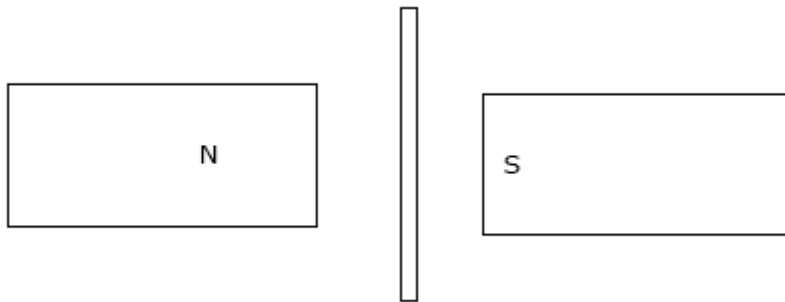
7. Name the three major parts to an electromagnet. \_\_\_\_\_  
 \_\_\_\_\_
8. Which elements make the best cores (highly permeable) \_\_\_\_\_  
 \_\_\_\_\_
9. How do these elements strengthen the magnetic field of an electric magnet.

10. What three factors determine the strength of an electromagnet? \_\_\_\_\_  
 \_\_\_\_\_

11. Where is the north pole of this solenoid?



12. A wire with current is placed within a magnetic field. The current in the wire is directed towards the top of this page. What is the direction of the magnetic force on the wire?



13. Draw the path an electron would have to take in order to receive the strongest force. Show the path it would have to take to receive the weakest force.



14. Name four factors that would affect the strength of the force on a charge moving through a magnetic field.

15. How do you create electricity?

16. What angle should you move a wire in a magnetic field to generate the most electricity?

17. What are the 2 major parts of an electric motor ? \_\_\_\_\_  
\_\_\_\_\_

18. Show how two wires with current must be positioned to exert the maximum and minimum force on each other.

Maximum

Minimum

18 a. Show how the currents in the wires above have to flow to create an attraction? repulsion?

19. Name three ways to make an electric magnet stronger. \_\_\_\_\_  
\_\_\_\_\_

20. Explain why it is that the more electricity you make using a mechanical generator, the tougher it is.

21. A wire is placed within a magnetic field. Name 3 ways you could move the wire below that would generate no current.



22. Name 3 ways to increase the electric potential induced in an electric generator.

23. A generator converts mechanical energy to \_\_\_\_\_ energy.