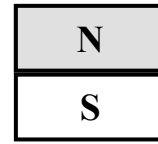


# Magnetism 2

- How many poles does a magnet have? (And name them.)
- If you break a magnetic apart, how many poles does each piece have?
- A south pole will attract what?
- A north pole will attract what?
- If the ring magnet is repelling the square magnets, label the ring magnet in *Diagram 1*.
- What could I put between the two magnets to shield (block) the magnetic field?
- What kind of force is a magnet (one that doesn't need to touch)?
- Why can't I isolate a north pole? (Why can't I ever split a north from a south pole?)

Diagram 1



- If I rub a piece of iron with a magnet, what happens to the piece of iron?

10. Moving electricity always causes \_\_\_\_\_.

11. Label poles of the compass needle with N and S.

12. A compass needle points toward which pole?

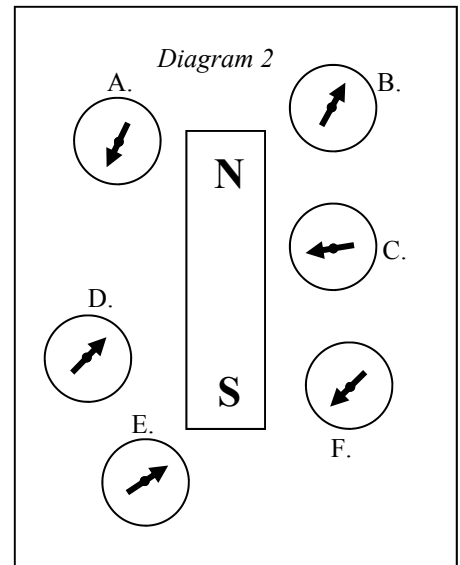


13. Using *Diagram 2*, which three magnets are real?

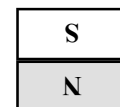
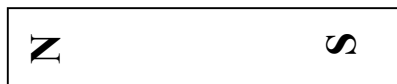
14. Moving magnets always cause \_\_\_\_\_.

15. Where does the earth get its magnetic field?

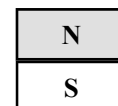
16. Why is the earth's magnetic field necessary for life on our planet?



17. Draw the magnetic field lines on the following magnet.



18. Draw the magnetic field lines for the two magnets on the right.



## Magnetism 2

### Problems

19. How much force does a 6 C charge going 256 m/s feel in a 75 T magnetic field?
20. A set of 45 loops of a current carrying wire shrink from  $10 \text{ m}^2$  to  $3 \text{ m}^2$  in 2 seconds in a 8 T field. How much emf does the change of area create?

### Right-Hand Rule

21. Label the following direction symbols as up, down, left, right, forward, or backwards.
- A.  $\downarrow$  \_\_\_\_\_      C.  $\uparrow$  \_\_\_\_\_      E. X \_\_\_\_\_  
B.  $\bullet$  \_\_\_\_\_      D.  $\rightarrow$  \_\_\_\_\_      F.  $\leftarrow$  \_\_\_\_\_
22. A charge is moving in a uniform magnetic field. If the charge is moving up and the magnetic field is toward the right, which way will the force be felt?
23. A charge is moving in a uniform magnetic field. If the magnetic field is to the right and the force the charge feels is backwards, which way is the charge moving?
24. If you turn a screw counterclockwise will it move up or down?
25. If the electricity in circular coils are going counterclockwise, is the magnetic field positive or negative?

### TAKS

26. Solutions that allow electricity to pass must have \_\_\_\_\_ in them.
27. Solutions that allow electricity to pass are called e\_\_\_\_\_.
28. Which of the following will allow electricity to flow?
- A. \_\_\_\_\_ Acid solutions      E. \_\_\_\_\_ neutral atoms  
B. \_\_\_\_\_ Dissolved covalent compounds      F. \_\_\_\_\_ atoms with an equal number of protons and electrons  
C. \_\_\_\_\_ Dissolved  
D. \_\_\_\_\_ ions      G. \_\_\_\_\_ Basic solutions