

Directed Reading A

Section: Magnets and Magnetism

PROPERTIES OF MAGNETS

1. Any material that attracts iron is a(n) magnets.
2. The points on a magnet that have opposite magnetic qualities are the magnetic poles.
3. The magnetic pole that points to the north is the magnet's north pole.
4. The magnetic pole that points to the south is the magnet's south pole.
5. The force that can either push magnets apart or pull them together is magnetic field.
6. The region around a magnet in which magnetic forces act is the magnet force.

For each description below, identify the correct magnetic property. Write either *magnetic forces* or *magnetic fields* in the space provided.

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|---------------|-----------------------------------------------------------------------|
| <u>Forces</u> | 7. come from spinning electric charges in the magnets |
| <u>forces</u> | 8. can push magnets apart or pull them together |
| <u>forces</u> | 9. depend on how two magnets' poles line up |
| <u>fields</u> | 10. are regions around magnets in which magnetic forces can act |
| <u>fields</u> | 11. shape can be shown with lines that surround magnets |
| <u>fields</u> | 12. are strongest at magnetic poles, where lines are closest together |

THE CAUSE OF MAGNETISM

- B 13. Whether a material is magnetic depends on its
a. density. c. shape.
b. atoms. d. mass.
- D 14. As an electron moves, it makes, or induces a(n)
a. aurora. c. electromagnet.
b. ferromagnet. d. magnetic field.
- C 15. Materials in which the atoms' magnetic fields cancel each other out are
a. aligned in domains. c. not magnetic.
b. like iron, nickel and cobalt. d. magnetic.
- B 16. Which of these is true when the poles of atoms line up?
a. The atoms cancel each other out.
b. The atoms are arranged in a domain.
c. The atoms make a weak magnetic field.
d. The atoms do not become magnetic.

17. Name one thing that causes domains of a magnet's atoms to lose alignment.

dropping the magnet; hitting it too hard; putting it next to a strong magnetic field opposite of its own.

18. How do you magnetize something made of iron, cobalt, or nickel?

You may magnetize something made of iron, cobalt or nickel by rubbing in one direction with the pole of a magnet

19. Why do you end up with two magnets when you cut one magnet in half?

A magnet's domains are like tiny magnets, each with a north and south pole. Even small magnets have poles

KINDS OF MAGNETS

Match the correct description with the correct term. Write the letter in the space provided.

- C 20. magnet with strong magnetic properties a. temporary
B 21. magnet made by an electric current b. electromagnet
A 22. magnet that loses magnetization easily c. ferromagnet
D 23. hard to magnetize, but stays magnetized d. permanent