

# Magnetism and Electromagnetism Study Guide

Student's Name \_\_\_\_\_ TEST DATE \_\_\_\_\_

Parent's Signature \_\_\_\_\_

1. What will happen when two bar magnets' North poles move closer together?

- A. They will attract
- B. They will repel
- C. Nothing will happen

2. What is an example of a naturally magnetic rock?

- A. Lodestone
- B. Graphite
- C. A magnet
- D. Wood

3. Name 3 materials that would be picked up by a magnet (NOT metals).

*Paper clip, nail, another magnet, screwdriver, etc.*

4. What will happen to a magnet if you hit it with a hammer?

- A. The hammer will pick up the magnet
- B. The magnet will lose some of its magnetism and be weakened
- C. Nothing will happen

5. A magnet would be most attracted to a:

- A. Glass jar
- B. Wooden ruler
- C. Nail
- D. Your skin

True or False:

6. You can turn off an electromagnet's magnetic field. \_\_\_\_

7. Magnets attract or repel different objects and other magnets. \_\_\_\_

8. A magnetized needle that is free to turn and show direction is called a \_\_\_\_.

- A. Needle
- B. Compass
- C. Rock
- D. Magnetic field

9. Magnets will pick up objects that are made of \_\_\_\_.

- A. Wood
- B. Aluminum

- C. Iron
- D. Copper

10. What do we call the ends of a magnet?

- A. Poles
- B. Ends
- C. Magnetic field
- D. Compass

11. Where are magnets the strongest?

- A. The middle
- B. The poles
- C. Magnets are not strong
- D. The whole magnet has equal strength.

12. Name objects that a magnet will NOT pick up.

*Eraser, paper, wood, etc.*

13. What is a magnetic field? (Circle all that are TRUE)

- A. It is invisible.
- B. The space or area around a magnet where the magnetic force acts.
- C. In a permanent magnet, the magnetic field can be turned off.
- D. A magnetic field is strongest in the middle of a magnet.

14. What is one way that you can strengthen an electromagnet?

- A. Remove the iron core (nail) from the electromagnet.
- B. Decrease the current flowing through the wire
- C. Turn the electromagnet off.
- D. Increase the number of coils around the iron core.

15. What does a magnetic field look like?

*The magnetic field should be on the outside of the magnet, curved around the magnet, and starting at the poles. Coming out from the poles, there should be disconnected slightly curved or straight lines which represent that the magnetic field is strongest around the poles.*

#### Unit Vocabulary

- 16. Magnet - A material made of iron that is attracted to other materials also made of iron
- 17. Force - A push or a pull
- 18. Temporary - Something that only lasts for a short period of time
- 19. Electromagnet - A magnet that can be turned on and off, where the magnetic field is produced by electrical current