

**BEFORE** viewing the tape, read through the questions below.

- \_\_\_\_\_ 1. A compass needle points \_\_\_\_\_. (direction)
- \_\_\_\_\_ 2. The most common magnetic mineral is \_\_\_\_\_.
- \_\_\_\_\_ 3. Iron filings can be used to show the magnetic field \_\_\_\_ around a magnet.
- \_\_\_\_\_ 4. The three magnetic metals are \_\_4\_\_, \_\_5\_\_, and \_\_6\_\_.
- \_\_\_\_\_ 5.
- \_\_\_\_\_ 6.
- \_\_\_\_\_ 7. Magnetic fields come from moving \_\_\_\_\_.

8. What happens if you disconnect the electric power from an electromagnet?

9. How do you make a simple electromagnet? What do you need?

- \_\_\_\_\_ 10. We live on an big magnet called the \_\_\_\_\_.
- \_\_\_\_\_ 11. The core of the earth is full of molten \_\_11\_\_ and \_\_12\_\_.

- \_\_\_\_\_ 12.
- \_\_\_\_\_ 13. The earth's magnetic field extends out into \_\_\_\_\_.
- \_\_\_\_\_ 14. \_\_14\_\_, and \_\_15\_\_ use the earth's magnetic field to navigate.

\_\_\_\_\_ 15.

16. How did Martin do his disappearing paper clip trick?

- \_\_\_\_\_ 17. Animals \_\_\_\_ using the earth's magnetic field to navigate.
- \_\_\_\_\_ 18. Some animals have compasses in their \_\_\_\_\_.
- \_\_\_\_\_ 19. The magnetic metals are \_\_19\_\_, \_\_20\_\_, and \_\_21\_\_.

- \_\_\_\_\_ 20. \_\_\_\_\_ 21.
- \_\_\_\_\_ 22. Like poles \_\_22\_\_ and unlike poles \_\_23\_\_.
- \_\_\_\_\_ 23.

\_\_\_\_\_ 24. In a magnet, the \_\_\_\_\_ in the atoms are all lined up.

\_\_\_\_\_ 25. If you cut a magnet in have you have \_\_\_\_\_ magnets.

26. a. Make a sketch with little cars as magnets all lined up. Show north and south poles on each car.



b. Make a second sketch showing what happens if you cut your string of car magnets in 1/2.

\_\_\_\_\_ 27. There is no way to get a magnet with just \_\_\_\_\_ pole.

28. How does a "MagLev" train work? What are the advantages of such a train?

29. Home Experiment: How can you make a compass with a needle, a film cannister top, and a bowl of water?

\_\_\_\_\_ 30. Magnetic Resonance Imaging, abbreviated \_\_\_\_\_, is used in medicine to "see" inside the body.

○ 1. Why is a ship's compasses is kept inside a binnacle?

\_\_\_\_\_ 32. Magnetic domains are \_\_\_\_\_ that electrons are spinning around.

\_\_\_\_\_ 33. When magnetic domains are \_\_\_\_\_ a metal becomes magnetic.

\_\_\_\_\_ 34. The earth's magnetic field lines go thru our bodies \_\_\_\_\_ our lives.

\_\_\_\_\_ 35. A compass needle points toward the \_\_\_\_\_ north pole, not the \_\_\_\_\_ north pole.  
\_\_\_\_\_ 36.

\_\_\_\_\_ 37. The aurora borealis, or northern lights, is caused by \_\_\_\_\_ particles that get trapped by the earth's magnetic field in space, and glow in the atmosphere.

\_\_\_\_\_ 38. The belts of trapped charged particles are also called the \_\_\_\_\_.

\_\_\_\_\_ 39. \_\_\_\_\_ is a metal that is not magnetic.

