

BEFORE viewing the tape, read through the questions below.

- _____ 1. A compass needle points _____. (direction)
- _____ 2. The most common magnetic mineral is _____.
- _____ 3. Iron fillings 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 half 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 canister top, and a bowl of water?

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

31. Why is a ship's compass 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.