Magnets should not be held near these things:

- TV
- VCR player
- DVD player
- microwave oven
- computer
- radio
- loudspeakers
- credit cards
- computer disks
- cassette tapes
- tape recorders
- telephones
- answering machines
- video tapes

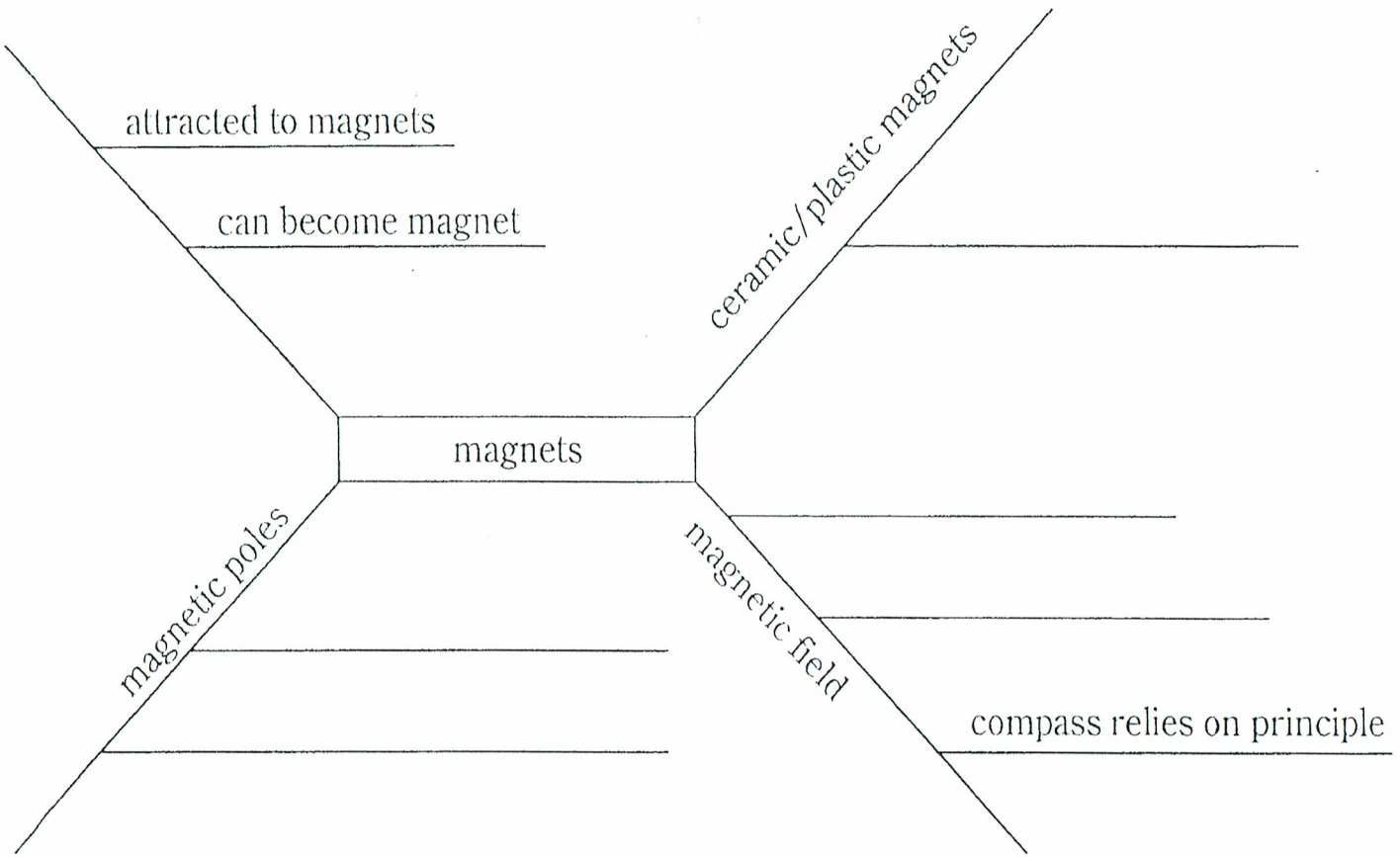
How Do Magnets Lose Power?

Magnetic materials can be magnetized or made into magnets. They cal also be demagnetized and lose their power. All magnets become weaker gradually over time. This is called aging. There are other ways they become weaker, either suddenly or gradually.

Hitting or dropping magnets can strengthen or weaken them, depending on where it happens. In a STRONG magnetic field (near a strong magnet, for example), tapping iron or steel can help to align the domains (at the poles) and magnetize them. On the other hand, if magnets are dropped or hit in a WEAK magnetic field (away from magnets), they will lose some of their magnetism.

To keep magnets strong, we should try not to drop them or hit them against anything. To keep magnets strong, it is important to store them properly. Always place them so that their opposite poles are together. They should attract one another, not repel. Each horseshoe magnet should be stored with a keeper, a piece of soft (pure) iron across its ends or poles.

If we are careful not to drop or hit our magnets, they will stay strong for a long time.



Use the following terms or phrases to complete the concept map.

places where pull of magnet is strongest	made from metals that have been combined with oxygen	surrounds magnet on all sides	same poles push away (S-S/N-N); opposite pull toward each other
iron		invisible	

Review Questions

1. What are two properties of a magnet?

2. What behavior of magnetic poles is always the same?

3. Where is a magnet's force strongest?

4. How can you see the effects of a magnetic field?

5. Describe two ways an object can be magnetized.

6. What are two household uses of magnets?

7. How can you feel the effects of a magnetic field?

8. What is a lodestone?

Problem Solving

Explain what you would do to try to solve each of the problems listed below.

1. A steel paper clip was dropped into a glass of water. How can you remove the clip from the glass without spilling out the water, getting your hands wet, or putting any tool or object into the water?

2. How could you tell which of an assortment of rocks were lodestones, or natural magnets? Describe any tests you would perform.

3. A jar on a desk contained two different kinds of plastic paper clips. One kind of plastic paper clip was not attracted to a magnet while the other kind was attracted to the magnet. How can you explain this? How would you find out the cause for the attraction?

4. How could you turn an ordinary screwdriver into a magnetic screwdriver capable of holding a screw at its tip?

Magnets Lesson 1: Making It Stick
Study Guide

- **Magnet:** a piece of material or device that attracts iron containing materials and some other metals.
- **Magnetic Poles:** places where the pull of the magnet is the strongest
- **Magnetic Field:** refers to the way magnets exert force on iron-containing objects, other magnets, and some special materials
- **Lodestones:** "leading stone," a natural, permanent magnet that was used to find directions
- You can make a **temporary magnet** by stroking a nail with a magnet in one direction. These line up the particles in one direction and allow it to pickup lightweight objects for a short amount of time.
- A magnet will attract objects made of metal, iron, and steel.
- A magnet will not attract rubber, plastic, wood, paper, etc.
- A magnet has two poles a north and a south pole. They are called the **magnetic poles**.
- Two like poles (N to N, S to S) will **repel** away from each other. Two unlike poles (N to S, S to N) will **attract** each other. This is different from *static electricity* because once you have a magnet, you don't have to charge it each time you use it.
- The pushing and pulling behavior of a magnet is called **magnetic force**. The magnetic force is strongest at the **poles**.
- When we did our experiment with the magnets and iron filings, we discovered the **magnetic field**, the area of force around the magnet.
- The north pole of a magnet seeks the **North Pole** of the Earth.
- **Magnets** are used on cabinet doors, refrigerator doors, electric can openers, compasses, medical magnets, decorations, etc.