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Magnet

Discovery:- It is said that there was a Shepherd name Magnes. He would take a stick with him to control his herd. The stick had a small piece of iron attached at one end. One day he was surprised to find that he had to pull hard to free his stick from a rock on the is how natural magnets was discovered.

Some people believe that magnetide was first discovered at a place called Magnesia.

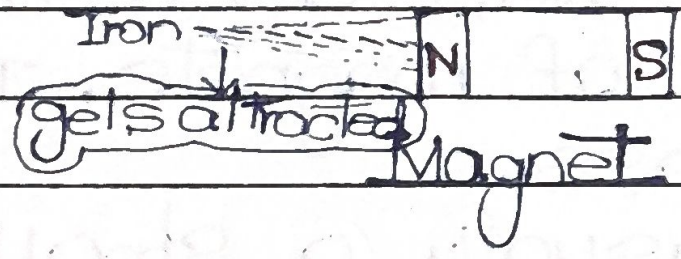
1. The substances having the property of attracting iron are known as magnets.

Note:- Magnetite is a rock mineral and one of the main iron ores with the chemical formula Fe_3O_4.

→ It is one of the iron oxides and ferrimagnetic; It is attracted to a magnet and can be magnetized to become a permanent magnet.

→ There are different types of magnets:- Rod magnets, Umbilical magnet, Cylindrical magnet, Spherical magnet.

Note:- The materials which get attracted towards a magnet known as magnetic material. Ex:- Iron, Cobalt & Nickel.



★ Magnet Poles ★

→ Through the picture, we are getting to know that most of the iron filings stick near both the ends of the bar magnet. The poles of the magnet are near these ends. There are 2 ends in magnet:- North & South Pole. Poles are more powerful than the middle part. It always goes from North to South but under the magnet it goes South to North.

* Find Direction.

→ It would rest in such a positon that its extended ~~from~~ arm always painted towards south.

→ By rotating the rod of a free north-south.

→ For a long time magnets were used to determine direction.

→ Later on a device was developed based on this property of magnets. It is known as Compass.

→ A compass is usually a small box with a glass cover on it. A magnetised needle is pivol inside the box, which can rotate freely. The compass also has a dial with direction marked on it.

→ The compass is kept at the place where we wish to know the direction.

→ It's needle indicates compass is then rotated until the North & south marked on the dial are kept two ends of the needle.

→ To identify the North pole of the magnetic needle, it is usually painted in a different colour.

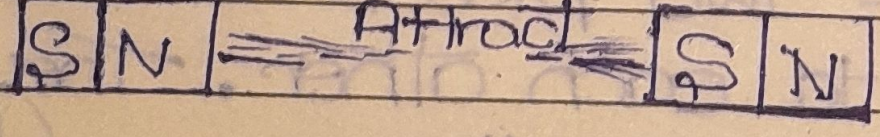
Make your own magnet.

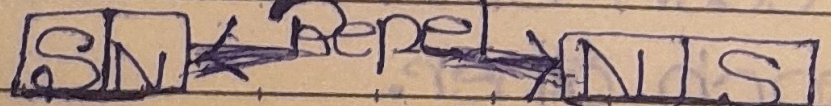
→ Take a rectangular piece of iron. Place it on the table. Now take a bar magnet and place one of its poles near one edge of the bar of iron. Without lifting the bar magnet, move it along the length of the iron bar till you reach the other end. Repeat this process about 30-40 times.

Note:- Remember that the pole of the magnet and the direction of its ~~magnet~~ movement should not be change.

Attraction and repulsion between magnetics.

The uneven poles of 2 magnets attract each other while the same poles have repulsion.





N I S ← Repel → S I N

Note:- Repulsion is the sure test of a magnet.

→ Magnets loose their properties if they are heated, hommered or dropped from some height. Also magnets become weak if they are not stored properly.

→ To keep them safe bar magnets should be kept in pairs with their unlike ples on the same side.

→ They must be separated by piece of two wood while two pieces of soft iron shuld be placed across their end.

→ Keep magnets away from Cassetes, mobiles, television, music system, compact disc and the Computer.

→ A magnet is broken into two pieces, if these two pieces ~~are~~ are brought closer to each other. They will:-

1. Attract each other.
2. Repel each other.

3. May attract or repel.
4. Neither attract or repel.