

CBSE Notes

Chapter XIII

Fun with magnets

Discovery of magnet :

- Sphered names magnes , who live in magnesia town in Greece .
- Every day he used to take his herd sheep and goat to nearby town grazing .
- He has stick to control the herd , the stick attached small piece of iron at the end .
- One day stick attract to the rock he was surprised.
- The rock was natural magnet and it attract to the iron tip .
- This is how natural magnet discovered .
- Such name given the name magnetite .
- Magnetite is natural magnet.
- The word magnet is derived from the word magnetite.

Magnetic and Non magnetic material :

A magnet attract only certain substance are called magnetic substance .

Or

Magnet is an object that has a property of attracting metals like iron , steal , nickel and cobalt .

- Bring a object close to small object like steal pin and paper clips , iron nails , piece of aluminium foil , rubber, eraser , bit of paper , wooden pencil , plastic pen etc.
- Object is attracted by the magnet (paper clip, iron nails ,) it is called magnetic .
- The material which are not attracted by magnet are called non magnetic material . Example : rubber, eraser , bit of paper , wooden pencil , plastic pen , piece of aluminium foil, etc.

Natural magnet :

A magnet which is naturally found in nature . Example : Iron magnet Fe_3O_4 .

Artificial magnet :

A magnet create artificially by man are called artificial magnet .

Example : Bar magnet , horse shoe magnet , cylindrical magnet etc.

Magnetic pole :

When we dip a bar magnet or horse shoe magnet in a pile of pins . We will notice that almost all the pin stick to the magnet , at the two end of the magnet .

This because the magnet seem to be the strongest at the two point one at each of its end. These point are the poles of magnet .

Finding direction :

- Hang a bar magnet from stand using thread .
- Mark the position of magnets poles on sheet of paper below it .
- Now rotate the magnet bar first clock wise and than anti clock wise.
- Mark the position of magnet each time when you rotate it .
- When you suspend a bar magnet one of its poles always point towards the geographical North. This is called North pole (N) of the magnet .
- The other pole point towards the geographical South is called South pole (S) of the magnet.
- You will find that the Direction in which the poles point remain same .

Magnetic compass :

- A magnetic compass is simple device for finding direction .
- It consists of magnetic needle that turn freely about its centre .
- The needle is encased in a box with a transparent box .
- Direction are either printed on a card place below the needle .
- The North pole of the needle is printed red or blue , or in the shape of arrowhead .
- When kept away from magnetic materials , the North pole of the needle point toward the geographical North (N).

Interaction between magnetic poles :

Unlike poles of magnet attract or pull each other and like poles are repel or push each other .

North pole \Rightarrow South Pole = attract each other

North Pole \Leftrightarrow North pole = repel each other

South pole \Leftrightarrow South Pole = repel each

Uses of magnetism :

- Magnet are used to separate magnetic ores from magnetic rock or magnetic substance .
- The door of a refrigerator has weak magnetic strip all around it to ensure that it remains firmly shut.
- Motor and generator used powerful magnet .