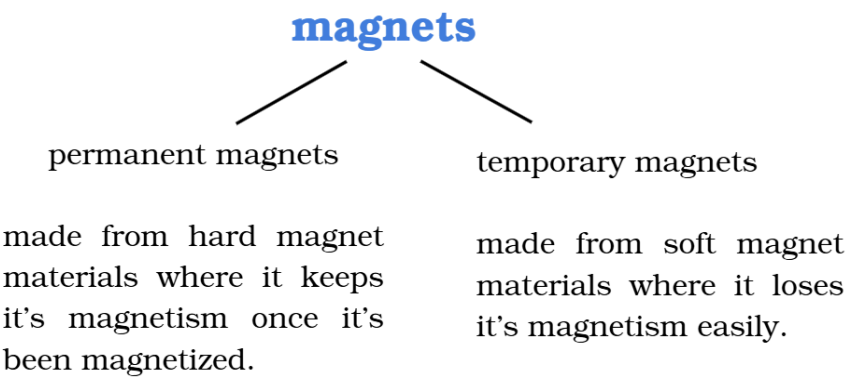
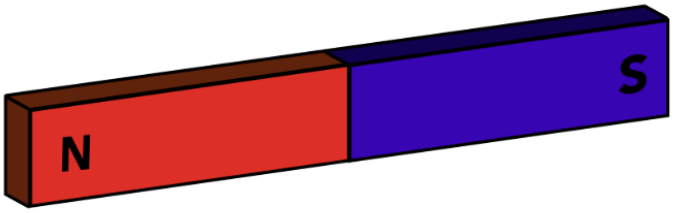
MAGNETISM

> Magnets?

Magnets are materials that are able to produce magnetic fields. They are able to attract objects made from magnet materials.



> Parts Of A Magnet



The 'N' and 'S' are poles. 'N' is north and 'S' is south. They are the strongest part of the magnet.

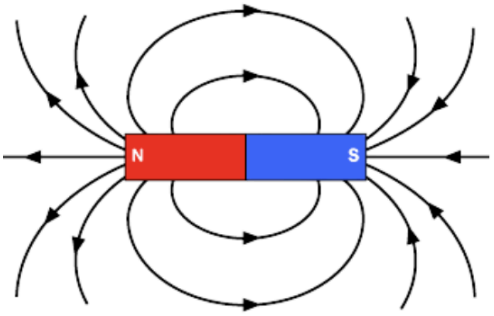
When a north pole is brought close to a north pole, they will repel, and when a north pole is brought close with a south pole, they will attract, and vice versa.

> Magnetic Field

Magnetic field is a **volume of space** around a magnet where we can detect magnetism.

Magnetic fields **aren't visible** but we use iron filings/compasses to show its shape and determine the strength and direction.

- Property

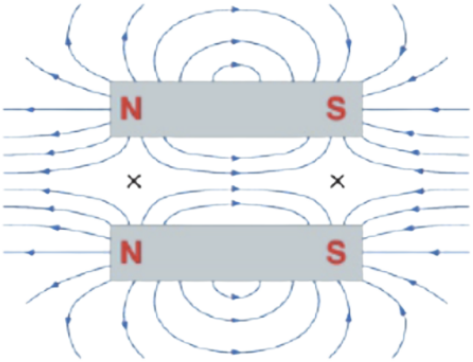


The magnetic field goes from the north pole to the south pole.

- Overlapping Magnetic Fields

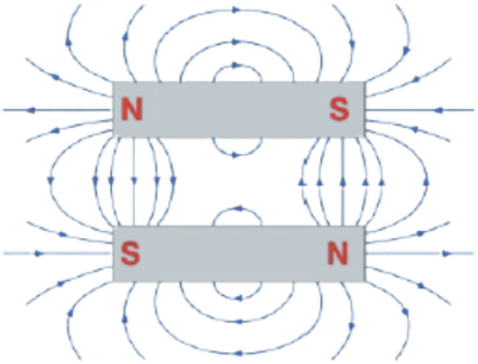
These are the magnetic fields when two magnets that are placed above and below each other repel/attract.

- repulsion



there is a blank space (x) which means that area has a weak magnetic field.

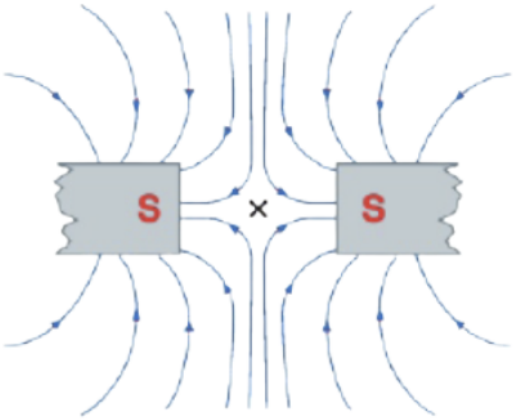
- attraction



this magnetic field is strong because all the fields are close to each other.

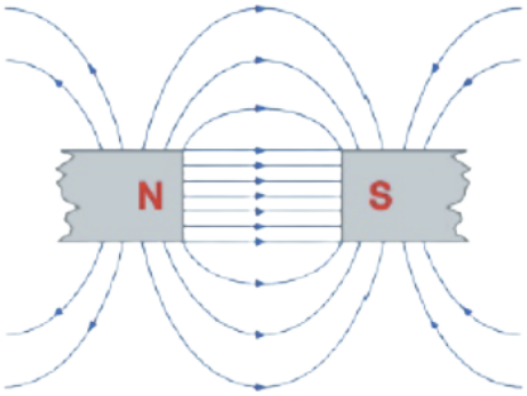
These are the magnetic fields when two magnets that are next to each other repel/attract.

- repulsion



blank space (x) = weak magnetic field

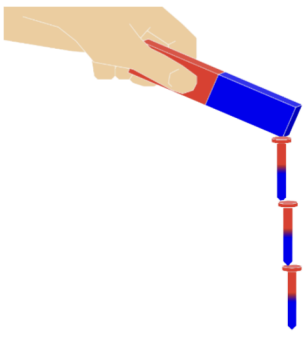
- attraction



when they attract, they create a uniform magnetic field = the strength and direction of the magnetic field is the same.

> Induced Magnetism

It is when **magnetism has been induced in a magnet material inside a magnetic field**. If it's induced in a hard magnet material, it will still have some of its magnetism after being removed from the magnetic field.



for instance, a nail being magnetised from the magnetic field between the nail (a magnet material) and a magnet.