
CHAPTER – 13

FUN WITH MAGNETS.

- **Magnets:** Materials that attract iron. Natural magnet is called lodestone or magnetite.
- Magnetite is a natural magnet.
- Magnet attracts materials like iron, nickel, cobalt. These are called magnetic materials.
- Materials that are not attracted towards magnet are called non-magnetic.
- A freely suspended magnet always aligns in N-S direction.
- Classification of substances based on attraction to magnets:

Magnetic Substances: Materials which get attracted towards magnets. Example: copper, iron, nickel, etc.

Non-magnetic Substances: Materials which do not get attracted towards magnets. Example: wood, paper, plastic and most metals.

- Methods to make Magnet:
 - (i) **Single Touch Method:** A piece of iron or steel can be magnetized by stroking it several times with a magnet in one direction.
 - (ii) **Double Touch Method:** Opposite poles of two bar magnets are brought together in the middle and then moved from the middle in the opposite directions to each other.
 - (iii) **Using Electric Current:** The bar to be magnetized is placed inside the coils of a conductor and current is passed through these coils of wire.
 - Properties of Magnet:
 - (i) A magnet has two poles – north pole and south pole.
 - (ii) Similar poles repel each other.
 - (iii) Opposite poles attract each other.
 - (iv) Magnetic poles always exist in pairs.
 - Applications of Magnet:

Compass needle: It points north-south because the earth is also a giant magnet. The compass lines up with the earth's magnetic field.

Used in factories for lifting heavy masses of iron like scrap iron.

Used by surgeons in hospitals to remove steel splinters from the wounds.

Used in the construction of telephones, electric bells, etc.

Used to separate iron and steel from non-magnetic materials.
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