

Magnet, any material capable of attracting iron and producing a magnetic field outside itself. By the end of the 19th century all the known elements and many compounds had been tested for magnetism, and all were found to have some magnetic property.

All magnets have a **north and south pole**. Magnetic poles are the strongest parts of a magnet. North and south poles of magnets **attract** each other. The two south poles and the two north poles **repel** each other.

A **magnetic field** is the area around a magnet that attracts and repel objects. If you place an object inside the magnet's field, it will be attracted to the magnet. The simplest way to see a magnetic field is to sprinkle **iron filings** around a magnet. Iron filings are tiny pieces of iron. When sprinkled around a magnet, they reveal the magnetic field.

Magnetism works over a distance. However, the closer the objects are to each other, the stronger the magnetic force. If you try to pull magnets apart it is very hard because the magnets are so close to each other. Once you get them a little bit apart it is much easier.

Types of Magnets

There are three types of magnets, and they are as follows:

- **Permanent magnet:** Permanent magnets are those magnets that are commonly used. They are known as permanent magnets because they do not lose their magnetic property once they are magnetized.
- **Temporary magnet:** Temporary magnets can be magnetized in the presence of a magnetic field. When the magnetic field is removed, these materials lose their magnetic property. Iron nails and paper-clips are examples of the temporary magnet.
- **Electromagnets:** Electromagnets consist of a coil of wire wrapped around the metal core made from iron. When this material is exposed to an electric current, the magnetic field is generated making the material behave like a magnet. The strength of the magnetic field can be controlled by controlling the electric current.

Characteristics of Magnet

- **Attractive property:** This property proves that the magnetic strength at the ends of the poles is strong.
- **Directive property:** This property helps to understand which pole of the magnet is north and south by suspending the magnet in mid-air.
- **Law of magnetic poles:** Like poles repel while unlike poles attract.
- **Pair property:** When a magnet is cut into two pieces, both the pieces will have the North Pole and the South Pole.
- **Sure test of magnetization:** This test is conducted to check if a given rod is magnetized or not by checking either the attraction or the repulsion of the iron rod and magnet.