

MAGNET - A magnet is a material that has both attractive and directive properties. This property of attraction is called magnetism.

Magnetic field - The space around a magnet within which its influence can be experienced.

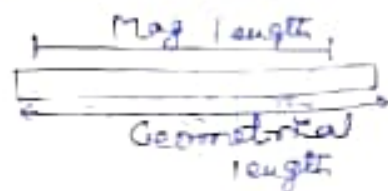
Uniform magnetic field - If it has same magnitude and direction at all points.

* Mag. field due to earth is uniform.

* Mag. field due to Bar magnet is not uniform.

Magnetic axis - The line passing through the poles

Mag. equator - The line passing through the centre of the magnet and at right angles to the magnetic axis.



$$\frac{\text{Magnetic length}}{\text{Geometrical length}} = 0.84$$

Magnetic dipole - An arrangement of two equal and opposite magnetic poles separated by small distance is called magnetic dipole.

Mag. Dipole moment :- Product of pole strength with its dipole length. It is vector quantity directed from south to North pole.

S.I. unit is Am^2 or joule per tesla.

* A magnet experiences a torque while electric charge experiences a force in electric field.

* The pole strength q_m is also called magnetic charge. Thus $+q_m$ represents north pole while $-q_m$ represents south pole.

When a magnet is cut along its axis in two parts then pole strength is $q_m/2$ while when it cuts perpendicular to its axis then pole strength is q_m .