

# Magnetism

Magnetism is a property of some substances, mostly metals. It is a phenomenon where one material exerts a force on another material; the force can be either attractive or repulsive.

All magnets have a north and south end. Unlike ends attract, like ends repel.

Magnetic forces occur because of the movement of electrical charges.

So magnetism is seen whenever electric charges are moving, such as in the current in a wire. Therefore, a wire with current in it will have an associated magnetic field surrounding it.

Conversely, if a wire is **in** a magnetic field, then the magnetic field will **cause** charges in the wire to move. This is how generators work: a rotating coil of wire **inside** a magnetic field, the magnetic field **induces** a current in the coil of wire.