

Magnetism

Magnet - A material in which spinning electrons are aligned with one another

Earth is a magnet - Its outer core is liquid metal
* Magnetic S. Pole is the North pole (Magnetized needle Revers)
If magnets are at rest, they exert magnetic force because the electrons in them are in motion

* Poles - Magnetic Force is greatest
No matter where where you break a magnet, you will get a N-S N-S pole

Magnetic Force Force of attraction or repulsion between the poles

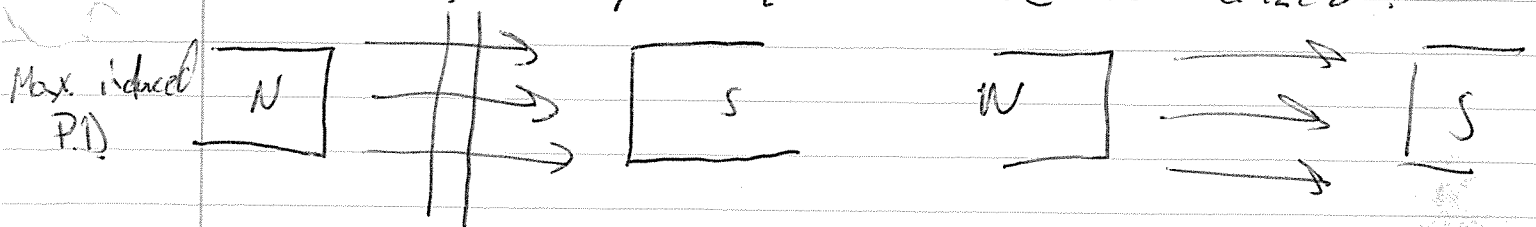
Magnetic Field - It exerts a force on any moving charge without touching it
(Similar to electric field)

Flux Lines Always form closed loops, and never cross each other

Electromagnetic Induction - Process of generating voltage due to the motion of the conductor and the magnetic field

If a conductor "cuts" across a magnetic field line, a magnetic force acts on the electrons, causing a potential difference $\text{or } V = \frac{W}{q}$ $V = \frac{F \cdot d}{q}$

If the conductor is moved parallel to the flux line (does not cross them), no potential difference is induced.



Electromagnetic Radiation

Oscillates / Accelerating electric charge produces a changing electric & magnetic field that radiates outward.