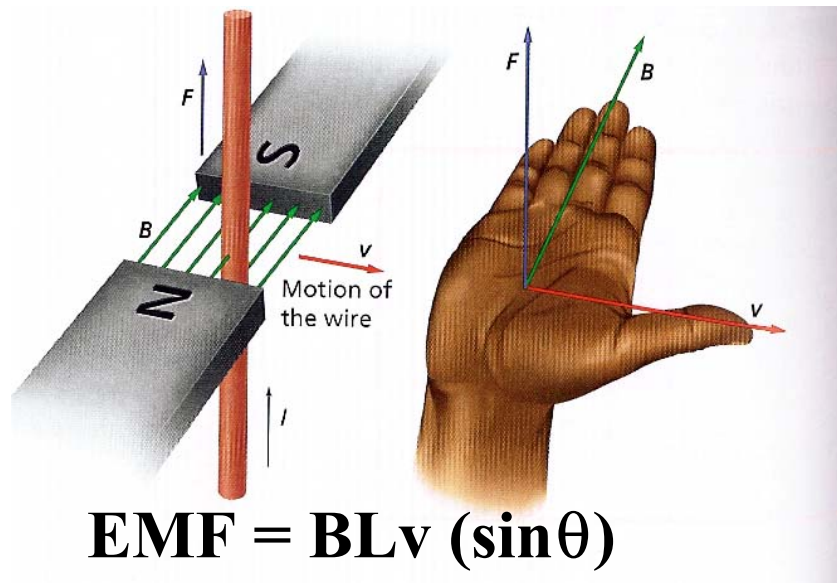


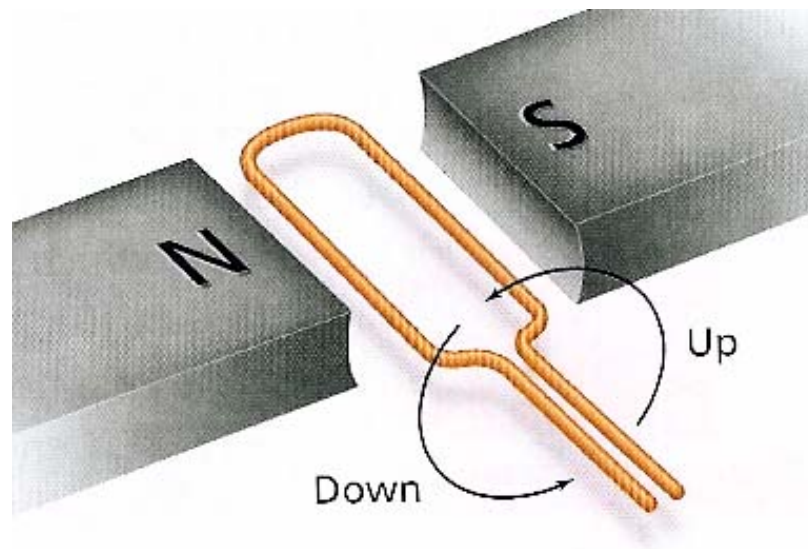
Chapter 25 Electromagnetic Induction

A moving or changing magnetic field causes an electric field (which causes a current in a circuit).

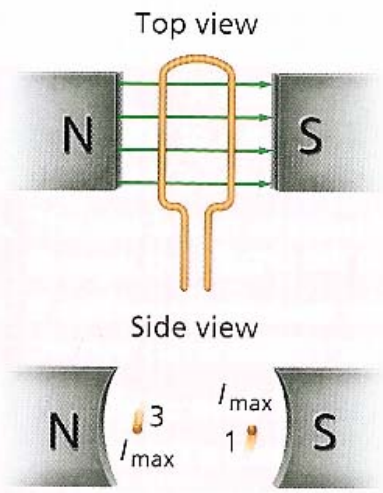


<http://www.walter-fendt.de/ph11e/lorentzforce.htm>

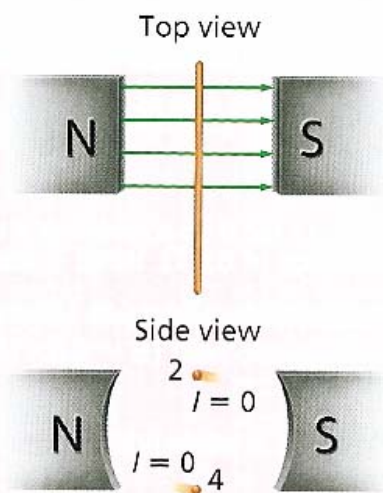
How a generator works:



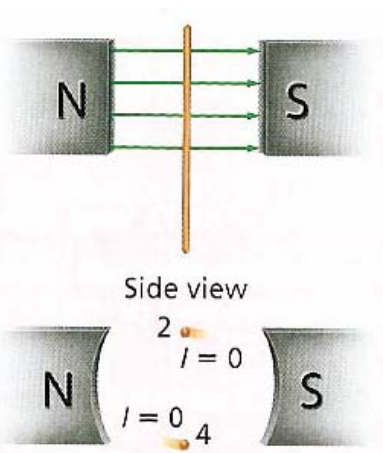
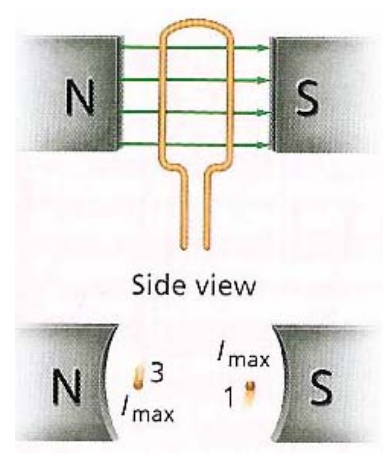
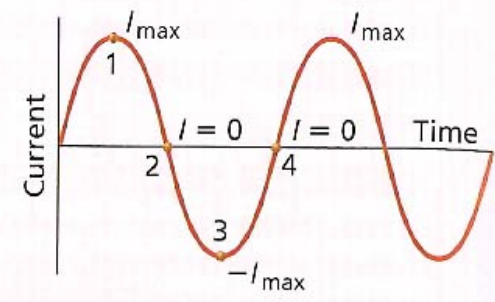
a



b



c

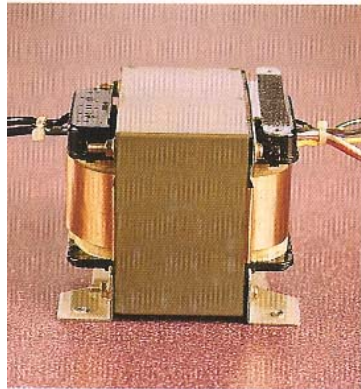


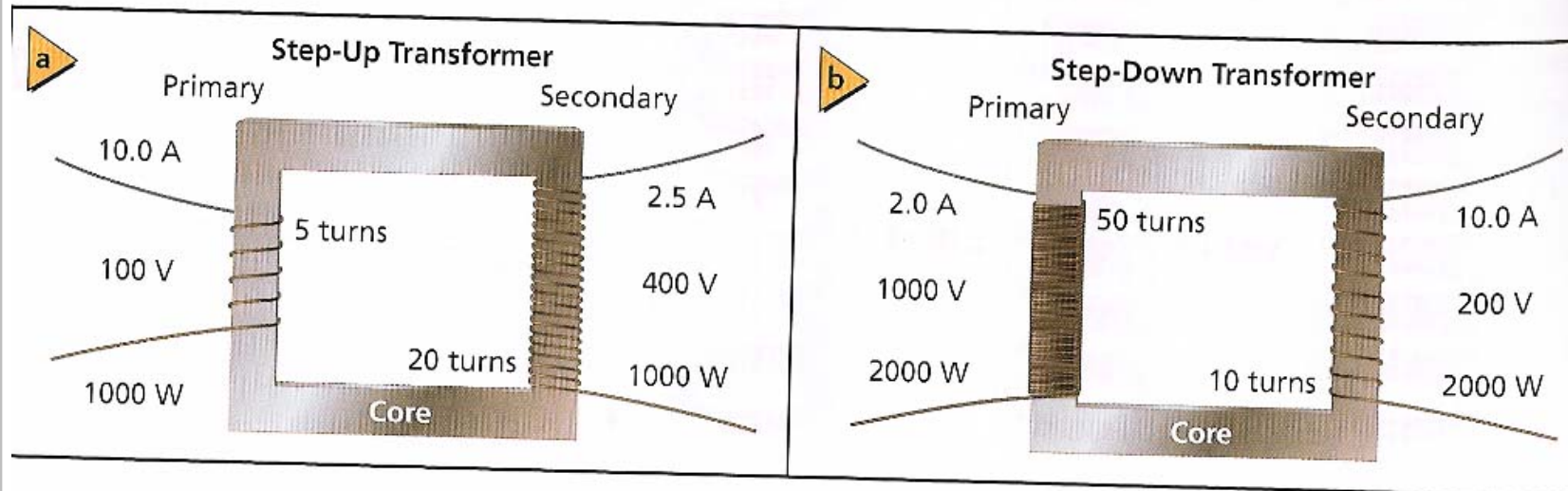
Lenz's Law

An induced current will flow in such a direction as to oppose by its magnetic field the change which produced it.

Transformers

Used to change alternating current of one voltage to alternating current of a different voltage.





Equations for Transformers:

$$V_p/V_s = N_p/N_s$$

$$V_p I_p = V_s I_s$$

N_p = number of turns in primary

N_s = number of turns in secondary

V_p = primary voltage

V_s = secondary voltage

I_p = primary current

I_s = secondary current

Important to note:

A STATIC magnetic field does not cause current. Only a moving/changing magnetic field will cause a current.

<http://micro.magnet.fsu.edu/electromag/java/compass/index.html>