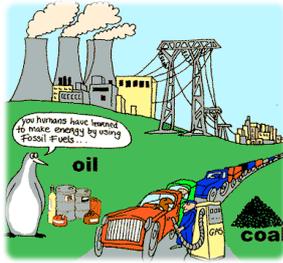


Physics

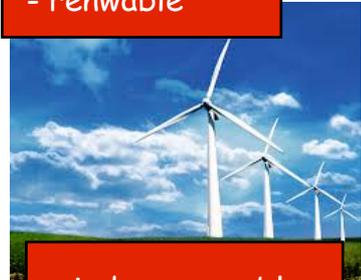
Energy resources



Fossil fuels - non-renewable

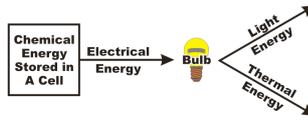


Hydroelectric - renewable

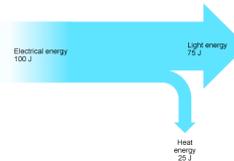


wind - renewable

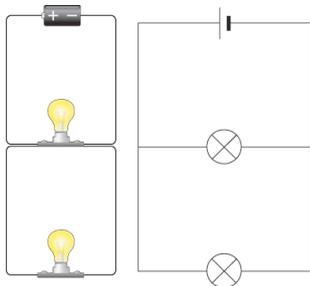
Energy transfers



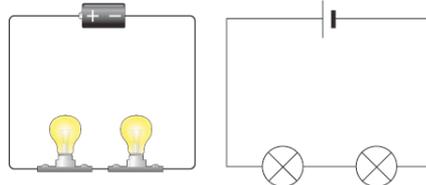
Sankey diagram



Chemical - stored energy
Kinetic - movement energy
potential
nuclear
elastic
electric
thermal
light
sound



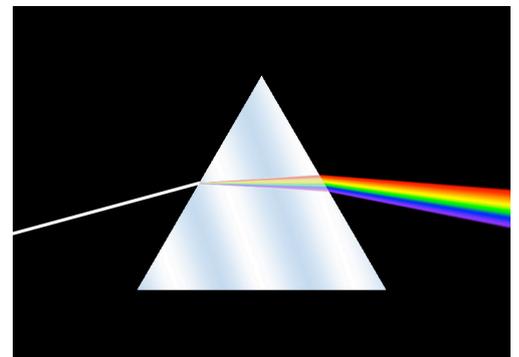
Parallel Circuit - bulbs don't get dimmer if more are added in parallel. If 1 bulb turns off the rest stay on



Series Circuit - bulbs get dimmer if more are added. If 1 bulb turns off the rest turn off.

Light travels in straight lines

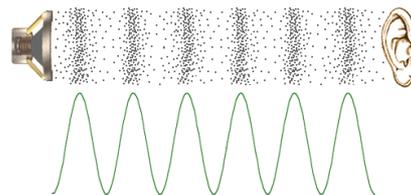
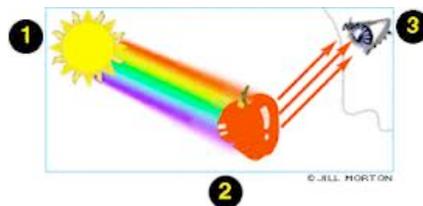
Light is made up of different colours. We can split light using a prism



We see colour that colour is reflected back into our eyes. The other colours are absorbed.

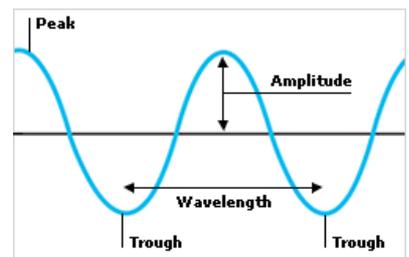
Heat is transferred through conductors like metals because the particles vibrate and pass the heat energy along

Filters only let one colour of light through



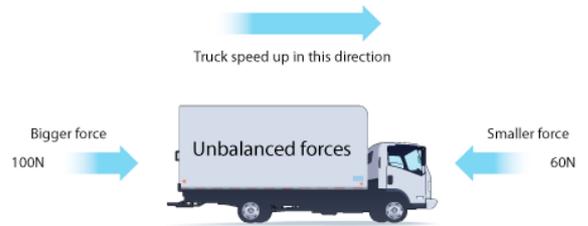
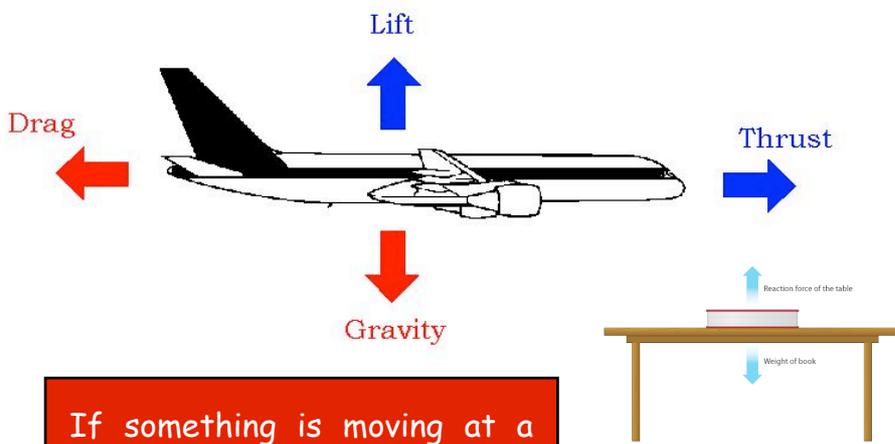
Light waves can pass through a vacuum

Sound waves cannot pass through a vacuum because it needs particles to vibrate



Loud sounds have a big amplitude, high pitched sounds have a short wavelength and a high frequency

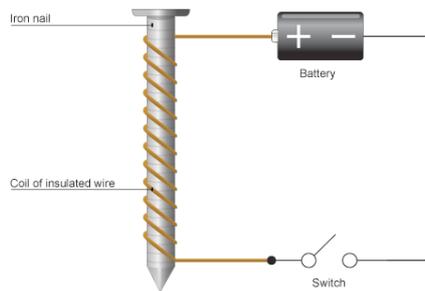
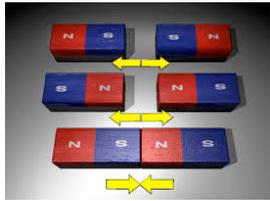
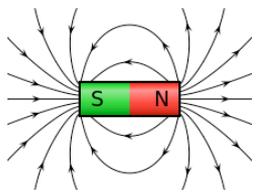
Frequency is the number of waves per second



If something is moving at a constant speed or not moving the forces are equal

When something speeds up or slows down the forces are unbalanced

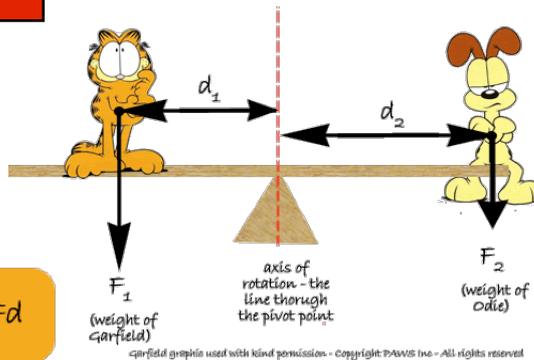
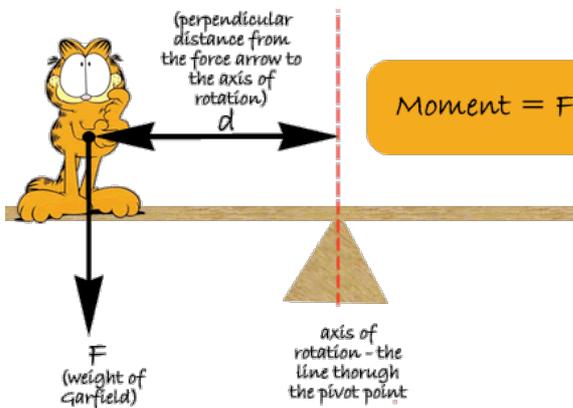
$$\text{speed} = \frac{\text{distance}}{\text{time}}$$



Electromagnet.
Made from an iron core and a coil of wire with an electric current.
To increase the strength of the magnet - increase the current - make more coils of wire - change the metal to magnetic metal

Magnets have a magnetic field. The same poles repel the opposite

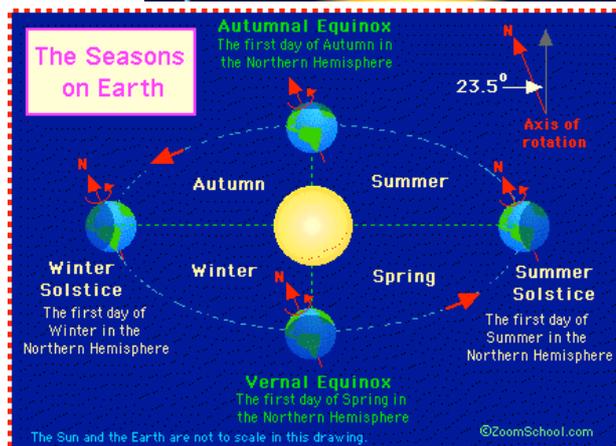
$$\text{pressure} = \frac{\text{force}}{\text{area}}$$



Solar System
The planets orbit the sun
The earth spins on its axis
The moon orbits the Earth

Year - 1 orbit around the sun
Day - 1 rotation of Earth
Lunar month - time for the moon to orbit the Earth

- Planets**
- Mercury
 - Venus
 - Earth
 - Mars
 - Jupiter
 - Saturn
 - Uranus
 - Neptune



Earth's axis is tilted which causes our seasons. In the Winter we are tilted away, In the summer we are tilted towards