A

Acceleration: Acceleration is the rate of change of velocity.

Formula: $a = \frac{v}{t}$

Units: m/s^2 or ms^{-2}

Alternating current: Current that travels in one direction for one hundredth of a second but the opposite direction for the next hundredth of a second.

Amplitude: The amplitude of a wave is the height of the crest above the average position.

Area: Area is the amount of surface enclosed within the boundary lines.

B

Biomass: This is the chemical energy stored in fast growing plants.

C

Centre of gravity: The centre of gravity of an object is the point through which all the weight appears to act.

Compass: A magnet, which is free to rotate and indicate direction.

Complementary colours: Complementary colours are two colours which when mixed give white.

Examples are:
Blue + **Yellow** = White
Red + **Cyan** = White
Green + **Magenta** = White

Concave lens: A concave lens is a lens that spreads out light rays.

Condensation: This is the changing of a gas to a liquid state.

Conduction: This is the transfer of heat through a solid, without the movement of the solid.

Convection: This is the transfer of heat through a liquid or a gas when molecules of the liquid or gas move and carry the heat.

Convex lens : A convex lens is a lens that brings light rays together.

Current: Current is a flow of charge.
Unit: Ampere (A)

D

Density: Density is the mass per unit volume of the substance.

Formula: $\text{Density} = \frac{\text{Mass}}{\text{Volume}}$

Units: g/cm^3 or $g\ cm^{-3}$

Direct Current: Current that travels in one direction only (i.e. from the positive terminal to the negative terminal).

Dispersion: This is the splitting up of white light into separate colours. It can be done by passing white light through a prism.

E

Energy: Energy is the ability to do work.

Equilibrium: An object that is balanced is said to be in equilibrium.

F

Force, F: A force is that which causes a change in the velocity of an object.
Unit: Newton, N
Formula: Force = Mass x Acceleration ($F = ma$)

Freezing: This is the changing of a liquid to a solid state.

Frequency, f: This is the number of waves that pass a particular point in one second.

Friction: This is a force which opposes motion between two objects in contact.

Fuse: A fuse is a safety device in an electric circuit. If the current gets too high the wire in the fuse melts which breaks the circuit switching off the current.

H

Heat: Heat is a form of energy.
Unit: Joules, J

I

Insulator: This is a substance, which does not allow heat to flow through easily.

L

Latent heat: This is the heat absorbed or released when a substance changes state without changing temperature.

Law of conservation of energy: Energy cannot be created or destroyed but can be converted from one form to another.

Law of the lever: When a lever is balanced the sum of the clockwise moments is equal to the sum of the anti clockwise moments.

Lever: A lever is a rigid body, which is free to turn about a fixed point called the fulcrum.

Light: Light is a form of energy.

Loudness: The loudness of a sound depends on the amplitude

Lubricant: A lubricant is a substance capable of reducing friction.

Luminous: A luminous object is an object that gives out light.

Lunar eclipse: This happens when the earth passes between the sun and the moon.

M

Magnetic field: A space around a magnet in which the magnetism can be detected.

Mass, m: The mass of an object is the quantity of matter in it.

Melting: This is the changing of a solid to a liquid state.

Moment: This is a measure of the turning effect of a force.
Formula:
Moment of a force = Force x Perpendicular distance from the fulcrum.

N

Newton's third law of motion: For every action there is an equal but opposite reaction.

O

Ohm's law: At constant temperature the voltage across a conductor is proportional to the current flowing through it.
Formula: Voltage = Current x Resistance ($V = IR$)

P

Pitch: The pitch of a sound is how high or low it is. It depends on the frequency of the wave.

Potential difference: Potential difference is also called voltage. It is the force, which moves the electrons around the circuit.
Unit: Volt (V)

Power: This is the rate at which energy is converted from one form to another.
Unit: Watts (W)
Formula: Power = Voltage x Current ($P = VI$)

Pressure : Pressure is force per unit area.
Formula: $\text{Pressure} = \frac{\text{Force}}{\text{Area}} \left(P = \frac{F}{A} \right)$
Unit: N/m^2 or Pascal (Pa)

Primary colours : The primary colours are red, green and blue. When the three of these colours are combined it results in white.
Red + Green + Blue = White

R

Radiation: This is the transfer of heat by means of invisible rays, which travel outwards from the hot object, without needing a medium.

Rectifier: This is used to convert alternating current to direct current.

Reflection: The reflection of light is the bouncing back of light from a surface.

Refraction: The refraction of light is the bending of light as it passes from one medium to another.

Resistance, R: The opposition of a conductor to current is called its resistance. A good conductor has a low resistance and a bad conductor has a high resistance.

S

Secondary colours: A secondary colour is formed when two primary colours are mixed. The three secondary colours are yellow, magenta and cyan.
Red + **Green** = **Yellow**
Red + **Blue** = **Magenta**
Blue + **Green** = **Cyan**

Solar eclipse: This happens when the moon passes between the sun and the earth.

Sound: Sound is a form of energy.

Speed, v: Speed is the distance travelled per unit time.
Formula: $\text{Speed} = \frac{\text{Distance}}{\text{Time}} \left(v = \frac{s}{t} \right)$
Unit: m/s

Stable equilibrium: A body is in stable equilibrium if when slightly moved its centre of gravity rises.

Sublimation: This is the changing of a solid directly to a gas.
(Iodine is an example of a substance that sublimes).

T

Temperature: This is a measure of how hot an object is.
Unit: degrees Celsius ($^{\circ}C$)

U

Unstable equilibrium: A body is in unstable equilibrium if when slightly moved its centre of gravity falls.

V

Velocity: Speed in a given direction.
Units: m/s

Volume: The volume of an object is the amount of space it takes up.

W

Wave: A wave is a means of transferring energy from one point to another.
Formula: Velocity = Frequency x Wavelength $(v = f \times \lambda)$

Wavelength: The wavelength of a wave is the distance between any two successive crests.

Weight: Weight is the force of gravity on an object.
Formula: Weight = Mass x Acceleration due to gravity