

Science Definitions

Biology

- Digestion is the breaking down of food
- Respiration is the release of energy from food
- Excretion is the removal of waste products of chemical reactions in the body
- An antagonistic pair is made up of two muscles that cause opposite effects
- Sensory nerves carry messages to the central nervous system. Motor nerves carry messages away from the central nervous system.
- Ovulation is the release of an egg from the ovary.
- Fertilisation is the joining of the sperm and the egg to form a zygote.
- Implantation is the attachment of the embryo to the lining of the uterus
- Pregnancy is the time the baby spends developing in the uterus
- Contraception is the prevention of fertilisation
- Genetics is the study of how traits or characteristics are inherited
- A gene is a section of DNA that can produce a protein.
- Invertebrates are animals that do not have backbones
- Vertebrates are animals that have backbones
- Transpiration is the loss of water from a plant
- The transpiration stream is a flow of water from the roots up through the stem and out of the leaves of a plant
- Photosynthesis is the way in which green plants make food.
- A tropism is the change in growth of a plant in response to an outside stimulus.
- Phototropism is the way a plant changes its growth response to light.
- Geotropism is the way in which a plant changes its growth in response to gravity.
- Sexual reproduction involves two sex cells joining together during fertilisation.
- A gamete is a sex cell
- Asexual reproduction means that new individuals are formed from only one parent.
- Pollination is the transfer of pollen from a stamen to a carpel.
- Fertilisation is the joining of the male and female gametes to form a zygote.
- Dispersal is the carrying of the seed as far as possible from the parent plant
- Germination is the growth of a seed to form a new plant.
- Ecology is the study of the relationships between plants, animals and their environments.
- A habitat is where a plant or animal lives.

- A population refers to all members of that particular type of a plant or animal living in a habitat.
- A community refers to all the plants and animals in that habitat
- Producers are plants that make their own food.
- Consumers are animals that get their food by eating plants or other animals
- A food chain is a list of living things in which each one is eaten by the next one in the chain.
- Adaptations are structures of habits that living things have which enable them to survive in their habitats.
- Competition occurs when two or more organisms require something that is in short supply.
- Interdependence means that living things depend on each other for survival.
- A line transect is a rope marked at regular intervals and laid out across a habitat to estimate the number of plants present.
- Conservation is the protection and wise management of our natural resources.
- Pollution is any unwanted change to our environment.
- Micro-organisms are small living things
- A parasite is a living thing that gets its food from another living thing.
- A saprophyte is a living thing that gets its food from dead sources.
- Antibiotics are chemicals made by micro - organisms that kill or prevent the growth of bacteria.
- Biotechnology is the use of living things or parts of living things to make useful products.

Chemistry

- A mixture is made up of two or more substances mingled together but not chemically combined.
- Elements are substances made up of only one type of atom.
- Molecules are made up of two atoms chemically combined.
- Compounds are made up of two or more elements chemically combined
- Mixtures contains two or more different substances mingled together but not chemically combined.
- Atomic number is the number of protons (or electrons) in an atom of an element.
- Mass number is the number of protons and neutrons in an atom of an element.
- Isotopes are atoms of the same element which have the same atomic number but different mass numbers.
- An alloy is a mixture of metals
- Corrosion is an undesirable process whereby a metal changes to its oxide or some other compound by combining with oxygen in air.
- An ion is an atom which has lost or gained electrons.
- An ionic bond is the electrical force of attraction between positive and negative ions.

- A covalent bond consists of a pair of electrons shared between two atoms.
- A physical change is a change in which no new substance is formed.
- A chemical change is a change in which at least one new substance is formed.
- A fuel is a substance that burns in oxygen to produce heat.
- Catalysts are substances which alter the rate of a chemical reaction but are not used up themselves.
- Electrolysis is the splitting up of a compound by passing electricity through it.
- A solution is a mixture of a solute and a solvent.
- A saturated solution is a solution that contains as much dissolved solute as possible at that given temperature.
- Crystallisation is the formation of crystals by the cooling of a saturated solution.
- Fuels are substances which burn in oxygen to produce heat energy.
- Hydrocarbons are compounds made up of hydrogen and carbon.
- Polymerisation is the process involving the joining together of many small molecules called monomers to form a large molecule called a polymer.

Physics

- Length is the straight line distance between two points in space.
- Mass is the quantity of matter in a body
- Time is the quantity in which change happens.
- Temperature is a measure of how hot or cold a body is.
- Area is the amount of surface that covers a body.
- Volume is the amount of space taken up by a body.
- Area = length x width
- Volume = length x width x height.
- The density of a body is the mass of one unit of volume of a body.
- Density = (mass / volume)
- Speed is the distance travelled by an object in a unit of time
- Velocity is the speed of a body and the direction in which it is moving.
- Acceleration is the change in velocity in a unit of time.
- Speed = distance / time.
- Acceleration = change in velocity / time taken for the change.
- A force gives a body at rest a velocity or makes a moving body change its velocity.
- A force causes a mass to accelerate.
- A change in velocity can be a change in speed or a change in direction or both.
- Friction is a force that opposes the motion of a body when it is in contact with another
- Lubrication is when a material is placed between surfaces of two moving bodies in contact, to reduce friction.

- The weight of a body on the surface of the moon is the attraction between the moon and the body and this is different from the force on the earth.
- The centre of gravity of a body is a point about which the turning effects caused by gravity are balanced. The weight of the body seems to be concentrated at this point.
- A body is in equilibrium if its centre of gravity is not moving and the body is not turning about any point
- A lever is a rigid body that can rotate about a fulcrum.
- The turning effect of a force is called the moment of a force.
- The law of the lever states that when a lever is balanced, the sum of the clockwise moments equals the sum of the anticlockwise moments.
- Pressure is the amount of force acting on a unit area.
- Work done = Force x distance moved in the direction of the force
- Energy is the ability to do work
- Power is the amount of work done in a unit of time.
- Energy is neither created nor destroyed but can be converted from one form to another.
- Heat is a form of energy
- Temperature is a measure of the relative hotness or coldness of a body.
- Increase in pressure raised the boiling point of water.
- The heat that is needed to change the state of a substance is called latent heat.
- Conduction is the transfer of heat through a substance without any overall movement of the substance itself.
- Convection is the transfer of heat through liquids and gases by the mass movement of particles.
- Radiation is the transfer of heat by means of waves that can travel through a vacuum. This is how the heat energy of the sun gets to the Earth.
- Light is a form of energy because it is a wave and waves carry energy.
- A luminous body creates its own light.
- Non - luminous bodies reflect light.
- The breaking up of white light into its different colours is called dispersion.
- The spectrum of light is made up of seven major colours. Red orange yellow green blue indigo and violet.
- Refraction is the bending of light as it passes from one transparent material to another.
- Sound is a form of energy and is produced when bodies vibrate.
- Sound needs a medium to be transmitted.
- The speed of sound is much less than the speed of light.
- A force something that changes the motion of a body.
- A magnetic field is the region of space around a magnet in which certain materials and other magnets will experience a magnetic force.
- A compass is a small magnet or a magnetised needle that is free to move in a protective case.
- Charge exerts force on another charge.
- Voltage = Resistance x Current or $V = RI$

- Direct current is the flow of charge in only one direction around a circuit.
- Alternating current is current that constantly changes direction.
- A kilowatt - hour is the amount of energy provided when 1 kilowatt of power is used for one hour.
- $\text{Cost} = \text{power rating in kW} \times \text{unit cost} \times \text{time in hours.}$
- Electronics is the controlling of devices by directing small amounts of current around circuits.