

# Glossary

**Abiotic** An abiotic factor is a non-living condition that can affect where organisms live, e.g. temperature.

**Absorb** The process of absorbing substances into cells or across the tissues and organs through diffusion or osmosis.

**Abundance** The number of individuals of each species in a sample.

**Acceleration** Rate of change of velocity.

**Acidic gases** Gases in the atmosphere that can combine with rain water to produce acid rain.

**Activation energy** The minimum energy required for a reaction to take place.

**Adaptation** Adaptations enable species to survive in the conditions in which they normally live, for example, a cold climate.

**Adhesion** The attraction between water molecules and the xylem wall in transpiration.

**Aerobic** A process which takes place in the presence of oxygen.

**Aerobic respiration** The process of using oxygen to break down glucose to produce energy, making carbon dioxide and water as byproducts.

**Air resistance** Frictional force due to air particles hitting a moving object.

**Alkali metals** Group 1 in the periodic table, the elements lithium down to caesium. They have similar properties because they all have one electron in their outer shell.

**Alkanes** A homologous series of hydrocarbons with the general formula  $C_nH_{2n+2}$ .

**Alleles** A version of a gene.

**Alloys** Mixtures of metals.

**Alveoli** Small air sacs in the lungs that are the site of gaseous exchange.

**Ammeter** Instrument with virtually no electrical resistance used to measure electric currents.

**Ampere** Unit of electric current.

**Amplitude** The intensity of a wave, usually measured as the distance between the centre of the oscillation and its peak/trough.

**Anaerobic** A type of process which takes place in the absence of oxygen.

**Anaerobic respiration** The process of breaking down glucose to produce energy in the absence of oxygen, making carbon dioxide and lactic acid as byproducts.

**Angina** Chest pains, often brought on by exercise, as the blood supply to the muscles of the heart is restricted.

**Anode** The positive electrode in electrolysis. At this electrode ions lose electrons.

**Antibiotic resistance** When bacteria cannot be killed by some or all antibiotics.

**Antibiotics** Medicines that kill bacteria, or slow down their growth.

**Antibody** A protein that binds to a specific antigen on a pathogen.

**Antitoxins** Antibodies that bind to the toxins produced by microorganisms in the body.

**Antiviral** Medicines that kill viruses.

**Aorta** The artery that carries oxygenated blood away from the heart and the largest artery in the body.

**Aqueous solution** A solution in which the solvent is water.

**Artificial heart** A mechanical heart that can be used in transplants to aid or replace the heart.

**Artificial pacemaker** A small mechanical device that coordinates the resting heartbeat.

**Artificial selection** Selective breeding of organisms to produce offspring with the desired characteristics.

**Asexual reproduction** A form of reproduction where the offspring are clones of the parent.

**Atom** The smallest particle of an element that can take part in a chemical reaction.

**Atomic number** The number of protons in the atom of an element.

**Automatic control** Processes in the body, controlled by the brain, that are involuntary.

**Bacteria** Unicellular, prokaryotic microorganisms.

**Balanced symbol equation** An equation where the number and type of atoms in the reactants are equal to the number and type of atoms in the products. A balanced symbol equation is a consequence of the law of mass conservation.

**Bar magnet** A permanent magnet, usually shaped like a bar, or a rod.

**Battery** A set of electrical cells connected in series to generate a potential difference.

**Behavioural adaptation** Changes to a species' behaviour to help their survival, e.g. penguins huddling together for warmth.

**Benign tumour** A growth of abnormal cells, contained in one area, that does not invade other parts of the body.

**Bias** A conclusion that may be incorrect.

**Bile** A substance produced by the liver that emulsifies fats into smaller droplets.

**Bioleaching** Bacteria digest the sulfide in low-grade ores allowing the metal to separate out and be extracted.

**Biomass** The total mass of the individuals of a species in a given area.

**Biotic** Any living component that affects the population of another organism or the environment.

**Bond energy** The energy (in kJ/mol) required to break a covalent bond between two atoms.

**Braking distance** The distance a vehicle travels from the moment the brakes are applied until it stops completely.