

Glossary/Index

Page references given in bold

A

Abiotic An abiotic factor is a non-living condition that can affect where organisms live, e.g. temperature. **127**

Absorb The process of absorbing substances into cells or across the tissues and organs through diffusion or osmosis. **28, 71, 86–88**

Abundance The number of individuals of each species in a sample. **131–2, 146**

Acidic gases Gases in the atmosphere that can combine with rain water to produce acid rain. **139**

Adaptation Adaptations enable species to survive in the conditions in which they normally live, e.g. a cold climate. **129**

Adhesion The attraction between water molecules and the xylem wall in transpiration. **45**

Adrenal gland The gland above the kidney that secretes hormones such as adrenaline. **82, 94**

Adrenaline The hormone that increases heart rate and breathing rate when a person is scared or excited. **94**

Adult cell cloning A method of cloning using DNA from an adult cell and an empty egg cell. **115**

Aerobic respiration The process of using oxygen to break down glucose to produce energy, making carbon dioxide and water as byproducts. **68, 134, 136**

Alfred Russel Wallace The biologist that came up with the theory of evolution at the same time as Charles Darwin. **118**

Alleles A version of a gene. **105, 107–9, 114, 119**

Allopatric speciation A form of speciation when the two populations are geographically separated. **118**

Alveoli Small air sacs in the lungs that are the site of gaseous exchange. **22, 35**

Amino acids The small units, or monomers, that proteins are made from. **87, 102–3**

Ammonia A toxic chemical that is produced as a product of amino acid deamination. **87**

Amylase An enzyme that breaks down starch. **29, 30, 33**

Anaerobic respiration The process of breaking down glucose to produce energy in the absence of oxygen, making carbon dioxide and lactic acid as byproducts. **68–9, 70**

Angina Chest pains, often brought on by exercise, as the blood supply to the muscles of the heart is restricted. **38**

Antibacterial chemicals Chemicals that kill bacteria. **61**

Antibiotic resistance When bacteria cannot be killed by some or all antibiotics. **51, 55, 120–1**

Antibiotics Medicines that kill bacteria, or slow down their growth. **17, 51, 55, 120–1**

Antibody A protein that binds to a specific antigen on a pathogen. **53, 54, 57–8**

Antigen A foreign substance that triggers an immune response in the body. **57**

Antimalarial drugs A medicine that kills the protozoa that causes malaria. **52**

Antiseptic A substance which inhibits the growth and development of microorganisms. **17**

Antitoxins Antibodies that bind to the toxins produced by microorganisms in the body. **53**

Antiviral Medicines that kill viruses. **55**

Aorta The artery that carries oxygenated blood away from the heart and the largest artery in the body. **34**

Arteriole A small artery. **86**

Artificial heart A mechanical heart that can be used in transplants to aid or replace the heart. **39**

Artificial pacemaker A small mechanical device that coordinates the resting heartbeat. **34**

Artificial selection Selective breeding of organisms to produce offspring with the desired characteristics. **112**

Aseptic technique A procedure that is performed under sterile conditions. **13**

Asexual reproduction A form of reproduction where the offspring are clones of the parent. **98–9**

Automatic control Processes in the body, controlled by the brain, that are involuntary. **73, 75**

Auxin A plant hormone that controls the growth of shoots towards the light and roots downwards. **95, 115**

Axon The long thin section of a neurone along which the nerve impulses travel. **10, 75–6**

B

Bacteria Unicellular, prokaryotic microorganisms. **8, 22**

Barrier method A method of preventing sperm from reaching an egg during sexual intercourse, e.g. condoms. **92**

Behavioural adaptation Changes to a species' behaviour to help their survival, e.g. penguins huddling together for warmth. **129**

Benign tumour A growth of abnormal cells, contained in one area, that does not invade other parts of the body. **43**

Bias Allowing personal opinions to influence judgements. **56**

Bile A substance produced by the liver that emulsifies fats into smaller droplets. **29**

Binary fission Asexual reproduction where bacteria divide their genetic material and double their normal size to make two daughter cells. **98**

Binding site The part of an antibody that binds in a complementary way to an antigen. **57**

Biodiversity The variety of living organisms on the Earth, or within an ecosystem. **138–9, 141**

Biogas generator A machine that uses microorganisms to break down organic waste anaerobically to produce methane gas. **136**

Biomass The total mass of the individuals of a species in a given area. **130, 134, 142–3**

Biotechnology The use of microorganisms or animals to make a product. **145**

Biotic Any living component that affects the population of another organism or the environment. **128**

Birth rate The number of offspring born in a year. **133, 144**

Bladder Organ that stores urine. **86**

Bowman's capsule Part of a nephron, in the kidney, where small molecules are sieved from the glomerulus. **86**

Brain Organ that controls activity of the body. **73, 78, 81**

Breeding programmes A programme of breeding organisms together to produce more offspring. **141**

Bronchi The two branches from the trachea that lead into the lungs. **35**

Budding Asexual reproduction where yeast double their genetic material and organelles into small buds on their surface, which break off. **98**

C

Capillary Small blood vessels that carry blood around the body's tissues. **35–6, 86**

Capture, release, recapture method A method of estimating population sizes by capturing organisms, marking them, releasing them and capturing some of them again. **132**