

Glossary/Index

A

Abiotic An abiotic factor is a non-living condition that can affect where organisms live, e.g. temperature. **129**

Absorb The process of absorbing substances into cells or across the tissues and organs through diffusion or osmosis. **30, 73, 88–90**

Abundance The number of individuals of each species in a sample. **133–4, 148**

Acidic gases Gases in the atmosphere that can combine with rain water to produce acid rain. **141**

Adaptation Adaptations enable species to survive in the conditions in which they normally live, e.g. a cold climate. **131**

Adhesion The attraction between water molecules and the xylem wall in transpiration. **47**

Adrenal gland The gland above the kidney that secretes hormones such as adrenaline. **84, 96**

Adrenaline The hormone that increases heart rate and breathing rate when a person is scared or excited. **96**

Adult cell cloning A method of cloning using DNA from an adult cell and an empty egg cell. **117**

Aerobic respiration The process of using oxygen to break down glucose to produce energy, making carbon dioxide and water as byproducts. **70, 136, 138**

Alfred Russel Wallace The biologist that came up with the theory of evolution at the same time as Charles Darwin. **120**

Alleles A version of a gene. **107, 109–11, 116, 121**

Allopatric speciation A form of speciation when the two populations are geographically separated. **120**

Alveoli Small air sacs in the lungs that are the site of gaseous exchange. **24, 37**

Amino acids The small units, or monomers, that proteins are made from. **89, 104–5**

Ammonia A toxic chemical that is produced as a product of amino acid deamination. **89**

Amylase An enzyme that breaks down starch. **31, 32, 35**

Anaerobic respiration The process of breaking down glucose to produce energy in the absence of oxygen, making carbon dioxide and lactic acid as byproducts. **70–1, 72**

Angina Chest pains, often brought on by exercise, as the blood supply to the muscles of the heart is restricted. **40**

Antibacterial chemicals Chemicals that kill bacteria. **63**

Antibiotic resistance When bacteria cannot be killed by some or all antibiotics. **53, 57, 122–3**

Antibiotics Medicines that kill bacteria, or slow down their growth. **19, 53, 57, 122–3**

Antibody A protein that binds to a specific antigen on a pathogen. **55, 56, 59–60**

Antigen A foreign substance that triggers an immune response in the body. **59**

Antimalarial drugs A medicine that kills the protozoa that causes malaria. **54**

Antiseptic A substance which inhibits the growth and development of microorganisms. **19**

Antitoxins Antibodies that bind to the toxins produced by microorganisms in the body. **55**

Antiviral Medicines that kill viruses. **57**

Aorta The artery that carries oxygenated blood away from the heart and the largest artery in the body. **36**

Arteriole A small artery. **88**

Artificial heart A mechanical heart that can be used in transplants to aid or replace the heart. **41**

Artificial pacemaker A small mechanical device that coordinates the resting heartbeat. **36**

Artificial selection Selective breeding of organisms to produce offspring with the desired characteristics. **114**

Aseptic technique A procedure that is performed under sterile conditions. **15**

Asexual reproduction A form of reproduction where the offspring are clones of the parent. **100–1**

Automatic control Processes in the body, controlled by the brain, that are involuntary. **75, 77**

Auxin A plant hormone that controls the growth of shoots towards the light and roots downwards. **97, 117**

Axon The long thin section of a neurone along which the nerve impulses travel. **12, 77–8**

B

Bacteria Unicellular, prokaryotic microorganisms. **10, 24**

Barrier method A method of preventing sperm from reaching an egg during sexual intercourse, e.g. condoms. **94**

Behavioural adaptation Changes to a species' behaviour to help their survival, e.g. penguins huddling together for warmth. **131**

Benign tumour A growth of abnormal cells, contained in one area, that does not invade other parts of the body. **45**

Bias Allowing personal opinions to influence judgements. **58**

Bile A substance produced by the liver that emulsifies fats into smaller droplets. **31**

Binary fission Asexual reproduction where bacteria divide their genetic material and double their normal size to make two daughter cells. **100**

Binding site The part of an antibody that binds in a complementary way to an antigen. **59**

Biodiversity The variety of living organisms on the Earth, or within an ecosystem. **140–1, 143**

Biogas generator A machine that uses microorganisms to break down organic waste anaerobically to produce methane gas. **138**

Biomass The total mass of the individuals of a species in a given area. **132, 136, 144–5**

Biotechnology The use of microorganisms or animals to make a product. **147**

Biotic Any living component that affects the population of another organism or the environment. **130**

Birth rate The number of offspring born in a year. **135, 146**

Bladder Organ that stores urine. **88**

Bowman's capsule Part of a nephron, in the kidney, where small molecules are sieved from the glomerulus. **88**

Brain Organ that controls activity of the body. **75, 80, 83**

Breeding programmes A programme of breeding organisms together to produce more offspring. **143**

Bronchi The two branches from the trachea that lead into the lungs. **37**

Budding Asexual reproduction where yeast double their genetic material and organelles into small buds on their surface, which break off. **100**

C

Capillary Small blood vessels that carry blood around the body's tissues. **37–8, 88**

Capture, release, recapture method A method of estimating population sizes by capturing organisms, marking them, releasing them and capturing some of them again. **134**