

T1 antiseptics	T1 antibiotics	T1 agar
T1 microorganisms	T1 magnification	T1 surface-area-to-volume ratio
T1 chloroplasts	T1 plasmid	T1 eukaryotic

T1 A jelly-forming material obtained from red algae, commonly used to solidify microbial culture media.	T1 Medicines that kill bacteria or inhibit their growth.	T1 Substances used on living tissue to reduce or inhibit microorganisms.
T1 An object's surface area divided by its volume; similar larger shapes have a smaller ratio.	T1 The ratio of an image's size to the corresponding actual size of the object.	T1 Organisms too small to see clearly without magnification, such as bacteria and yeasts.
T1 Describing cells with a membrane-bound nucleus and other membrane-bound organelles.	T1 A usually circular DNA molecule that replicates separately from a cell's main chromosome; engineered plasmids can carry inserted genes as vectors.	T1 Organelles in plants and algae that contain photosynthetic pigments and carry out photosynthesis.

T1 nucleus	T1 prokaryotic	T1 cytoplasm
T1 mitochondria	T1 vacuole	T1 specialised cells
T1 differentiation	T1 resolving power	T1 electron microscopes

T1 The contents of a cell inside its membrane and outside the nucleus, where many chemical reactions occur.	T1 Describing cells that lack a membrane-bound nucleus and other membrane-bound organelles.	T1 A membrane-bound organelle in eukaryotic cells that contains most of the genetic material.
T1 Cells whose structures suit particular jobs, such as carrying oxygen or absorbing water.	T1 A membrane-bound compartment containing fluid and dissolved substances, often large and permanent in plant cells.	T1 Organelles in eukaryotic cells where most aerobic respiration and ATP production occur.
T1 Microscopes using electron beams to reveal finer structures than ordinary light microscopes.	T1 The ability of an imaging system to distinguish two nearby points as separate details.	T1 The process by which cells become specialised in structure and function.

T1 light microscopes	T1 binary fission	T1 nutrient broth
T1 colonies	T1 aseptic technique	T1 contamination
T1 sterilise	T1 Petri dishes	T1 culture media

T1 A liquid supplying nutrients for growing microorganisms.	T1 Asexual division of one bacterial cell into two daughter cells after DNA replication; they normally inherit matching genetic information, except for changes such as mutations.	T1 Instruments using visible light and lenses to magnify small objects such as cells.
T1 Unwanted microorganisms or substances entering a sample, culture or environment.	T1 Methods used to reduce contamination by unwanted microorganisms, such as sterile equipment and careful handling of cultures.	T1 Visible groups of microorganisms grown from one or a few starting cells.
T1 Materials supplying the nutrients and conditions needed to grow microorganisms.	T1 Shallow lidded dishes used to hold solid culture media.	T1 To remove or destroy all viable microorganisms from an object or culture medium.

T1 inoculating loop	T1 control	T1 zones of inhibition
T1 resistant	T1 mitosis	T1 daughter cell
T1 cell cycle	T1 tumour	T1 stem cell

T1 Clear regions around antimicrobial discs where bacterial growth is inhibited.	T1 An untreated or comparison setup used to judge the effect of the tested variable.	T1 A small loop used to transfer microorganisms into or between cultures.
T1 A cell formed when another cell divides.	T1 Nuclear division that produces two genetically identical nuclei with the same chromosome number as the original nucleus.	T1 Not killed or prevented from growing by the specified antibiotic under the tested conditions.
T1 A cell able to renew itself by division and give rise to specialized cell types; different stem cells have different differentiation limits.	T1 An abnormal growth of cells forming a mass, which may be benign or malignant.	T1 The repeating sequence of growth, DNA replication and division of a cell.

T1 undifferentiated	T1 embryonic stem cells	T1 rejected
T1 therapeutic cloning	T1 ethical	T1 bone-marrow
T1 meristem	T1 solute	T1 partially permeable membrane

T1 Recognised as foreign and attacked by the recipient's immune system.	T1 Cells from an early embryo that can divide and become many specialised cell types.	T1 Not yet specialised for a particular cell function.
T1 Soft tissue inside some bones containing stem cells that produce blood cells.	T1 Consistent with principles about responsible conduct and what is right or wrong.	T1 Using somatic-cell nuclear transfer to create an embryo from which stem cells may be obtained for research or potential treatment; nuclear DNA matches the nucleus donor.
T1 A barrier allowing some substances to cross more readily than others.	T1 A substance dissolved in a solvent to form a solution.	T1 Plant tissue containing actively dividing, relatively unspecialized cells, found at root and shoot tips and in other growth regions.

T1 concentration gradient	T1 diffusion	T1 osmosis
T1 active transport	T1 gas exchange	T1 blood plasma
T1 ventilation	T1 root hairs	T1 mineral ion

T1 The net movement of water molecules through a partially permeable membrane from higher to lower water potential.	T1 The net movement of particles from higher to lower concentration due to their random motion.	T1 A change in a substance's concentration across a distance or between regions.
T1 The liquid part of blood, carrying blood cells and dissolved substances.	T1 The movement of gases, such as oxygen and carbon dioxide, between an organism and its environment or between internal regions.	T1 The movement of substances across a cell membrane against their concentration gradient using energy and carrier proteins.
T1 An electrically charged mineral nutrient, such as nitrate or magnesium, required by an organism in small amounts.	T1 Long extensions of root epidermal cells that increase the area for absorbing water and mineral ions.	T1 Movement of air into and out of the lungs.

T1 single-celled	T1 multicellular	T1 exchange surfaces
T1 small intestine	T1 gills	T1 alveoli
T2 tissue	T2 organ	T2 organ systems

T1 Thin, large-area regions where substances pass between an organism and its surroundings.	T1 Made of many cells with coordinated functions.	T1 Made of one cell.
T1 Tiny air sacs in the lungs where gases are exchanged between air and blood.	T1 Gas-exchange organs that extract dissolved oxygen from water.	T1 The section of the digestive tract where most chemical digestion and absorption of digested nutrients occur.
T2 Groups of organs working together, such as the digestive system.	T2 Several tissues working together at one function, such as the stomach.	T2 A group of cells organised to carry out a particular function.

T2 enzyme	T2 biological catalyst	T2 lock-and-key model
T2 substrate	T2 active site	T2 denaturation
T2 amylase	T2 salivary glands	T2 pancreas

T2 A simplified model in which a substrate's shape fits an enzyme's active site.	T2 A biological substance, such as an enzyme, that speeds a reaction without being used up overall.	T2 A biological catalyst that increases the rate of a reaction without being used up overall.
T2 A change in a biological molecule's structure that disrupts its normal function, without necessarily breaking its primary covalent structure.	T2 The region of an enzyme where a substrate binds and the reaction is catalysed.	T2 A substance on which an enzyme acts.
T2 An organ that produces digestive enzymes and hormones including insulin and glucagon.	T2 Glands releasing saliva into the mouth, including the enzyme amylase.	T2 An enzyme that breaks starch into smaller sugars.

T2 protease	T2 lipase	T2 simple sugars
T2 bile	T2 liver	T2 gall bladder
T2 emulsify	T2 reducing sugar	T2 Biuret reagent

T2 Single sugar units, such as glucose, that cannot be broken down into smaller sugars.	T2 An enzyme that breaks down fats and oils into fatty acids and glycerol.	T2 An enzyme that digests proteins into smaller peptides and amino acids.
T2 An organ that stores and releases bile.	T2 An organ that processes nutrients, regulates blood chemistry, detoxifies substances and produces bile.	T2 An alkaline fluid made by the liver that helps neutralise acid and emulsify fats.
T2 An alkaline copper-containing reagent that turns violet when peptide bonds in proteins are present.	T2 A sugar capable of reducing a suitable oxidising reagent, producing a positive Benedict's or similar test under appropriate conditions.	T2 To break fat into small droplets, increasing the surface area available to lipase.

T2 buffer	T2 vena cava	T2 right atrium
T2 right ventricle	T2 pulmonary artery	T2 pulmonary vein
T2 left atrium	T2 left ventricle	T2 aorta

T2 The heart chamber receiving blood returning from the body.	T2 The major veins returning blood from the body to the right atrium.	T2 A substance or solution that limits changes in pH when small amounts of acid or base are added.
T2 The vessels carrying blood from the lungs to the left atrium.	T2 The vessel carrying blood from the right ventricle to the lungs.	T2 The heart chamber pumping blood towards the lungs.
T2 The main artery carrying blood from the left ventricle to the body.	T2 The heart chamber pumping blood around the body.	T2 The heart chamber receiving blood from the lungs.

T2 coronary arteries	T2 double circulation	T2 valves
T2 arteries	T2 veins	T2 pacemaker
T2 lumen	T2 capillary	T2 trachea

T2 Structures that prevent blood flowing backwards, including those in the heart and veins.	T2 A system in which blood passes through the heart twice in a complete journey through the lungs and body.	T2 Blood vessels supplying heart muscle with oxygen and nutrients.
T2 A device that uses electrical signals to help control an abnormal heart rhythm.	T2 A blood vessel that carries blood towards the heart.	T2 Blood vessels carrying blood away from the heart.
T2 The airway connecting the larynx to the bronchi in humans and other vertebrates.	T2 A very small blood vessel with thin walls that allow exchange between blood and tissues.	T2 The internal space of a tube, vessel or membrane-bound structure.

T2 bronchi	T2 alveoli	T2 plasma
T2 red blood cells	T2 haemoglobin	T2 white blood cells
T2 platelets	T2 coronary heart disease	T2 stent

T2 The liquid component of blood in which cells, proteins and other dissolved substances are carried.	T2 Tiny air sacs in the lungs where gases are exchanged between air and blood.	T2 Airways branching from the trachea and dividing within the lungs into smaller passages.
T2 Immune cells with different roles: some engulf pathogens, while certain lymphocytes produce antibodies.	T2 The iron-containing protein in red blood cells that binds and transports oxygen.	T2 Blood cells specialised to carry oxygen using haemoglobin.
T2 A small mesh tube used to hold a narrowed artery open.	T2 Narrowing of the arteries supplying heart muscle, reducing its blood and oxygen supply.	T2 Cell fragments in blood that trigger clotting at a wound.

T2 statin	T2 cholesterol	T2 health
T2 communicable diseases	T2 non-communicable diseases	T2 risk factor
T2 positive correlation	T2 cancer	T2 benign tumour

T2 Physical and mental well-being.	T2 A lipid needed in cell membranes; high blood levels can contribute to fatty deposits in arteries.	T2 A medicine that reduces cholesterol production and lowers blood cholesterol.
T2 A characteristic or exposure associated with an increased chance of a particular disease.	T2 Diseases that do not pass from one person to another as infections.	T2 Diseases caused by pathogens that can pass between organisms.
T2 A non-cancerous mass that stays local and does not invade neighbouring tissues.	T2 A group of diseases involving uncontrolled cell growth, with the potential to invade surrounding tissues and spread.	T2 Higher values of one variable tend to occur with higher values of another.

T2 malignant tumour	T2 carcinogen	T2 epidermis
T2 waxy cuticle	T2 palisade mesophyll	T2 spongy mesophyll
T2 guard cells	T2 stomata	T2 meristem

T2 The outer protective cell layer of a plant organ, such as a leaf.	T2 A substance or other agent that increases the risk of cancer.	T2 A cancerous growth that invades neighbouring tissue and can spread.
T2 Leaf tissue with air spaces that allow gases to move between cells.	T2 The column-shaped leaf cells packed with chloroplasts for photosynthesis.	T2 A water-resistant outer layer that reduces water loss and resists pathogen entry.
T2 Plant tissue containing actively dividing, relatively unspecialized cells, found at root and shoot tips and in other growth regions.	T2 Small pores in plant epidermis, controlled by guard cells, through which gases and water vapour pass.	T2 One of a pair of specialised cells whose changes in shape control the opening of a stoma.

T2 translocation	T2 xylem	T2 phloem
T2 sieve tubes	T2 lignin	T2 sieve plates
T2 root hairs	T2 osmosis	T2 partially permeable membrane

T2 Plant vascular tissue that transports sugars and other organic substances between sources and sinks.	T2 Plant vascular tissue that transports water and mineral ions and helps support the plant.	T2 The movement of dissolved sugars and other organic substances through a plant's phloem from sources to sinks.
T2 Perforated end walls between adjoining sieve-tube cells.	T2 A strong organic material deposited in some plant cell walls to provide support and waterproofing.	T2 Living phloem transport cells joined end to end to carry dissolved sugars.
T2 A barrier allowing some substances to cross more readily than others.	T2 The net movement of water molecules through a partially permeable membrane from higher to lower water potential.	T2 Long extensions of root epidermal cells that increase the area for absorbing water and mineral ions.

T2 active transport	T2 transpiration	T2 potometer
T3 pathogens	T3 infectious disease	T3 viruses
T3 bacteria	T3 protists	T3 fungi

T2 An apparatus measuring water uptake by a cut shoot, used as an estimate of transpiration.	T2 The loss of water vapour from a plant's aerial parts, mainly through its stomata.	T2 The movement of substances across a cell membrane against their concentration gradient using energy and carrier proteins.
T3 Infectious agents that reproduce only inside host cells.	T3 A disease caused by a pathogen, such as a bacterium, virus, fungus or parasite.	T3 Disease-causing agents, such as certain bacteria, viruses, fungi or parasites.
T3 Eukaryotic organisms obtaining nutrients by absorption; examples include moulds, mushrooms and yeasts.	T3 A diverse group of eukaryotic organisms, including the parasites that cause malaria.	T3 Single-celled prokaryotic organisms whose cells lack a membrane-bound nucleus.

T3 toxins	T3 vector	T3 host cells
T3 mutation	T3 mucus	T3 cilia
T3 hydrochloric acid	T3 white blood cells	T3 phagocytosis

T3 Cells infected and used by a pathogen, for example as sites of viral reproduction.	T3 An organism carrying a pathogen between hosts, such as a mosquito carrying malaria parasites.	T3 A poisonous substance produced by a living organism that can harm cells or disrupt biological processes.
T3 Small hair-like structures on cells that can beat to move the cell or nearby material.	T3 A slippery secretion that protects and lubricates surfaces and can trap particles and pathogens.	T3 A change in genetic material, such as a DNA sequence or chromosome structure.
T3 A cell engulfing and digesting particles, such as a phagocyte taking in pathogens.	T3 Immune cells with different roles: some engulf pathogens, while certain lymphocytes produce antibodies.	T3 An aqueous solution of hydrogen chloride.

T3 antibody production	T3 antigen	T3 antitoxin production
T3 memory cells	T3 vaccination	T3 antibiotics
T3 painkillers	T3 toxicity	T3 efficacy

T3 Making antibodies that neutralise particular toxins.	T3 A molecule or molecular feature recognised by the immune system that can trigger a specific immune response.	T3 Making proteins that bind specifically to particular antigens.
T3 Medicines that kill bacteria or inhibit their growth.	T3 Giving a vaccine to stimulate a protective immune response and memory.	T3 A long-lived immune cell that enables a faster or stronger response when the same antigen is encountered again.
T3 How well a treatment produces its intended effect under the tested conditions.	T3 The capacity of a substance to cause harm to living cells or organisms.	T3 Medicines that reduce pain without necessarily removing its cause.

T3 dose	T3 preclinical	T3 placebo
T3 double-blind	T3 peer review	T3 monoclonal antibodies
T3 clone	T3 lymphocytes	T3 hybridoma

T3 A comparison treatment lacking the active intervention being tested, used to help distinguish its effects from other influences.	T3 Describing tests before human clinical trials, using cells, tissues or other appropriate models.	T3 An amount of a substance or radiation received by an organism or material.
T3 Antibodies produced from one clone of cells, recognising the same specific antigen site.	T3 Evaluation of scientific work by other specialists before or after publication.	T3 A comparison in which participants and outcome assessors do not know the treatment assignments.
T3 A cell produced by fusing an antibody-producing B cell with a tumour cell so it can multiply and produce a specific antibody.	T3 A type of white blood cell involved in immune responses, including B cells and T cells.	T3 A genetically identical copy of a cell or organism, apart from any new mutations.

T3 TMV	T3 rose black spot	T3 aphids
T3 chlorosis	T3 deficiency	T3 waxy cuticle
T3 herbivores	T4 respiration	T4 light intensity

T3 Small insects feeding on plant sap and spreading plant diseases.	T3 A fungal disease causing dark spots, yellowing and early loss of rose leaves.	T3 Tobacco mosaic virus, which causes mosaic discolouration of leaves and can reduce plant growth.
T3 A water-resistant outer layer that reduces water loss and resists pathogen entry.	T3 A shortage of an essential nutrient that impairs normal growth or function.	T3 Yellowing of leaves, from mineral deficiency or disease.
T4 The amount of light energy incident per unit area per unit time, expressed using an appropriate physical measure.	T4 The chemical reactions in cells that release usable energy from nutrient molecules.	T3 Animals that feed on plant material.

T4 photosynthesis	T4 pondweed	T4 inverse square law
T4 endothermic	T4 chloroplasts	T4 chlorophyll
T4 glucose	T4 starch	T4 optimum

T4 For a point source spreading energy uniformly, intensity is proportional to one divided by distance squared.	T4 An aquatic plant used to investigate photosynthesis by measuring oxygen production.	T4 The process by which plants and other organisms use light energy to make organic substances from carbon dioxide and water.
T4 A green pigment that absorbs light energy for photosynthesis.	T4 Organelles in plants and algae that contain photosynthetic pigments and carry out photosynthesis.	T4 Here, describing an energy-absorbing process; photosynthesis takes energy from the surroundings as light.
T4 The temperature giving the highest rate under the stated conditions.	T4 A storage polysaccharide in plants, made from glucose units.	T4 A simple sugar with molecular formula $C_6H_{12}O_6$, used by cells as a source of energy.

T4 denature	T4 limiting factor	T4 sodium hydrogencarbonate
T4 independent variable	T4 dependent variable	T4 wavelength
T4 cellulose	T4 amino acids	T4 nitrate ions

T4 The compound NaHCO_3, added in this experiment as a source of dissolved carbon dioxide.	T4 A factor whose availability restricts the rate or extent of a process.	T4 To alter a biological molecule's structure enough to disrupt its normal function, without necessarily breaking its primary covalent structure.
T4 The distance between corresponding points on successive waves.	T4 The measured or calculated outcome whose response to changes in another variable is studied.	T4 An input or factor whose value is chosen or varied to examine its effect on another quantity.
T4 Negatively charged NO_3^- ions, absorbed by plants as a nitrogen source.	T4 Organic molecules with amino and carboxyl groups that link together to make proteins.	T4 A structural polysaccharide made of glucose units, forming a major component of plant cell walls.

T4 exothermic	T4 mitochondria	T4 aerobic respiration
T4 cytoplasm	T4 anaerobic respiration	T4 ethanol
T4 yeast	T4 fermentation	T4 decomposers

T4 The release of usable energy from nutrients through pathways in which oxygen serves as the final electron acceptor.	T4 Organelles in eukaryotic cells where most aerobic respiration and ATP production occur.	T4 Describing a process that transfers heat to its surroundings.
T4 A two-carbon alcohol with molecular formula C_2H_5OH.	T4 The release of usable energy from nutrients without using oxygen; some syllabuses use this term broadly to include fermentation.	T4 The contents of a cell inside its membrane and outside the nucleus, where many chemical reactions occur.
T4 Organisms that break down dead organic matter and waste, recycling nutrients.	T4 The breakdown of sugars without oxygen, often by microorganisms, to release energy and form products such as ethanol or lactic acid.	T4 A single-celled fungus, many species of which can ferment sugars to produce ethanol and carbon dioxide.

T4 heart rate	T4 breathing rate	T4 breath volume
T4 lactic acid	T4 liver	T4 oxygen debt
T4 fatigued	T4 haemoglobin	T4 metabolism

T4	T4	T4
The volume of air moved in or out in one breath.	The number of breaths taken per unit time, usually per minute.	The number of heartbeats per unit time, usually per minute.
T4	T4	T4
The extra oxygen needed after exercise to react with and remove accumulated lactic acid.	An organ that processes nutrients, regulates blood chemistry, detoxifies substances and produces bile.	An organic acid associated with lactate production during anaerobic metabolism in animal cells.
T4	T4	T4
The chemical reactions that maintain an organism's life processes.	The iron-containing protein in red blood cells that binds and transports oxygen.	Less able to sustain force or activity after exertion.

T4 glycogen	T4 glycerol	T4 fatty acids
T4 lipid	T4 urea	T4 excretion
T5 homeostasis	T5 receptors	T5 stimuli

T4 A carboxylic acid with a hydrocarbon chain, commonly a component of lipids such as triglycerides.	T4 A three-carbon alcohol with three hydroxyl groups, forming part of the structure of triglycerides.	T4 A highly branched glucose polysaccharide used for energy storage in animals and fungi.
T4 The removal from an organism of metabolic waste and substances present in excess of its requirements.	T4 A nitrogen-containing compound formed from excess amino groups in mammals and excreted mainly in urine.	T4 A member of a group of largely water-insoluble biological molecules, including fats, oils, phospholipids and steroids.
T5 Detectable changes in an organism's internal or external environment.	T5 Cells or structures that detect changes and initiate a response.	T5 Maintaining a relatively stable internal environment despite external or internal changes.

T5 coordination centres	T5 spinal cord	T5 pancreas
T5 effectors	T5 neurone	T5 electrical impulses
T5 reflex arc	T5 sensory neurone	T5 relay neurone

T5 An organ that produces digestive enzymes and hormones including insulin and glucagon.	T5 The part of the central nervous system inside the vertebral column that carries signals and coordinates some reflexes.	T5 Organs such as the brain, spinal cord or pancreas that process information and coordinate responses.
T5 Rapid electrical changes travelling along neurones to transmit information.	T5 Nerve cells specialised to transmit information using electrical and chemical signals.	T5 Muscles or glands that carry out a response.
T5 A nerve cell connecting other neurones within the central nervous system.	T5 A nerve cell carrying information from a receptor towards the central nervous system.	T5 The neural pathway connecting a receptor to an effector in a reflex response.

T5 motor neurone	T5 synapse	T5 median
T5 cerebral cortex	T5 cerebellum	T5 medulla
T5 retina	T5 optic nerve	T5 sclera

T5 The middle value when data are arranged in order, or the mean of the two middle values for an even number of observations.	T5 A junction through which a neuron communicates with another cell, usually using a chemical transmitter.	T5 A nerve cell carrying information from the central nervous system to an effector.
T5 The part of the brainstem continuous with the spinal cord that helps regulate functions such as breathing and heart rate.	T5 A region of the brain involved in coordinating movement, balance and motor learning.	T5 The outer layer of the cerebrum, involved in perception, voluntary action and higher cognitive functions.
T5 The tough outer coat protecting and supporting the eye.	T5 The bundle of nerve fibres that carries visual signals from the retina toward the brain.	T5 The light-sensitive layer at the back of the eye that converts light into nerve signals.

T5 cornea	T5 pupil	T5 iris
T5 accommodation	T5 lens	T5 myopia
T5 concave lens	T5 hyperopia	T5 convex lens

T5 The coloured structure of the eye whose muscles change pupil size to regulate the amount of light entering.	T5 The opening in the iris through which light enters the eye.	T5 The transparent front surface of the eye that refracts incoming light.
T5 Short-sightedness: distant-object images focus in front of the retina in the relaxed eye; a diverging corrective lens can bring the focus onto the retina.	T5 A transparent eye structure whose shape changes to focus light on the retina.	T5 Changing the shape and focusing power of the eye's lens so light from objects at different distances forms a sharp image on the retina.
T5 A converging lens, thicker in the middle, used in the stated hyperopia model.	T5 A refractive error in which light would focus behind the retina when accommodation is relaxed, often making nearby objects difficult to see clearly.	T5 A diverging lens, thinner in the middle, used in the stated myopia model.

T5 thermoregulatory centre	T5 sweat glands	T5 vasodilation
T5 vasoconstriction	T5 sweat	T5 endocrine system
T5 hormone	T5 target organs	T5 pituitary gland

T5	T5	T5
Widening of blood vessels, which can increase blood flow through them.	Skin glands releasing sweat, whose evaporation transfers energy away from the body.	A brain region monitoring temperature and coordinating responses that help regulate body temperature.
T5	T5	T5
The glands and tissues that release hormones into the blood to coordinate body functions.	The fluid released onto the skin whose evaporation cools the body.	The narrowing of blood vessels due to contraction of muscle in their walls.
T5	T5	T5
An endocrine gland beneath the hypothalamus that releases hormones involved in growth, reproduction and control of other endocrine organs.	Organs whose cells have suitable receptors and respond to a particular hormone.	A chemical messenger released by a cell or gland that affects target cells with suitable receptors.

T5 thyroid	T5 adrenal glands	T5 ovaries
T5 testes	T5 insulin	T5 glycogen
T5 glucagon	T5 negative feedback	T5 Type 1 diabetes

T5 Reproductive organs that produce egg cells and hormones including oestrogen.	T5 Endocrine glands above the kidneys that release hormones including adrenaline.	T5 An endocrine gland in the neck that releases thyroxine.
T5 A highly branched glucose polysaccharide used for energy storage in animals and fungi.	T5 A hormone produced by pancreatic beta cells that helps lower blood glucose concentration.	T5 Reproductive organs that produce sperm and testosterone.
T5 A condition in which the body produces insufficient insulin, allowing blood glucose to rise.	T5 A control process in which a change triggers responses that oppose that change.	T5 A hormone from pancreatic alpha cells that helps raise blood glucose concentration.

T5 Type 2 diabetes	T5 deaminated	T5 liver
T5 ammonia	T5 urea	T5 filtration
T5 selective reabsorption	T5 ADH	T5 dialysis

T5 An organ that processes nutrients, regulates blood chemistry, detoxifies substances and produces bile.	T5 Having the amino group removed from an amino acid.	T5 A condition involving reduced sensitivity to insulin, often with progressively inadequate insulin secretion.
T5 The passage of small substances out of blood into kidney filtrate, while cells and large proteins remain in blood.	T5 A nitrogen-containing compound formed from excess amino groups in mammals and excreted mainly in urine.	T5 A compound of nitrogen and hydrogen with the formula NH_3.
T5 Separating blood from dialysis fluid with a partially permeable membrane so wastes such as urea diffuse out.	T5 Antidiuretic hormone: it increases water reabsorption in the kidney when blood is too concentrated.	T5 The return of useful substances from kidney filtrate to the blood according to the body's needs.

T5 transplant	T5 oestrogen	T5 testosterone
T5 ovulation	T5 FSH	T5 LH
T5 progesterone	T5 condoms	T5 diaphragms

T5 A steroid hormone involved in reproductive development and functions, including the development of male secondary sexual characteristics.	T5 A group of steroid hormones involved in reproductive development and regulation of the menstrual cycle.	T5 Moving an organ or tissue from a donor to a patient, as a kidney transplant.
T5 Luteinising hormone, whose surge triggers ovulation.	T5 Follicle-stimulating hormone, which stimulates ovarian follicle maturation in this menstrual-cycle model.	T5 The release of an egg cell from an ovary.
T5 Barrier devices placed over the cervix to help prevent sperm passing through.	T5 Barrier contraceptives that reduce the chance of sperm entering the reproductive tract.	T5 A hormone that maintains the uterus lining in the menstrual-cycle model.

T5 phototropism	T5 gravitropism	T5 auxin
T6 sexual reproduction	T6 asexual reproduction	T6 fertilisation
T6 Punnett square	T6 selective breeding	T6 genetic engineering

T5	T5	T5
A class of plant hormones involved in growth responses, including cell elongation and tropisms.	A plant organ's directional growth response to gravity; roots commonly show positive gravitropism and shoots negative gravitropism.	A plant organ's directional growth response to light; growth towards light is positive phototropism and growth away is negative phototropism.
T6	T6	T6
The fusion of the nuclei of two gametes to form a zygote.	Reproduction without the fusion of gametes, normally producing genetically identical offspring except for mutations.	Reproduction involving the fusion of male and female gametes and mixing of genetic information.
T6	T6	T6
The deliberate alteration of genetic material using biotechnology, such as inserting, removing or editing DNA.	Breeding organisms chosen for desirable inherited characteristics over successive generations.	A grid showing possible combinations of parental alleles and their expected proportions.

T6 fossil	T6 mitosis	T6 clone
T6 meiosis	T6 polymer	T6 double helix
T6 gene	T6 genome	T6 nucleotide

T6	T6	T6
A genetically identical copy of a cell or organism, apart from any new mutations.	Nuclear division that produces two genetically identical nuclei with the same chromosome number as the original nucleus.	Preserved remains or traces of organisms that lived in the past.
T6	T6	T6
The structure formed by two strands coiled around a common axis, as in DNA.	A large molecule made from many linked repeating units derived from smaller molecules.	A type of nuclear division that produces haploid nuclei with half the original chromosome number and creates genetic variation.
T6	T6	T6
A unit of a nucleic acid containing a nitrogenous base, a pentose sugar and a phosphate group.	The complete set of genetic material of an organism or cell, or of a virus.	A DNA sequence that contributes to a functional product, such as a protein or RNA molecule.

T6 adenine	T6 cytosine	T6 guanine
T6 thymine	T6 ribosome	T6 mutation
T6 gamete	T6 chromosome	T6 allele

T6	T6	T6
The base G, pairing with cytosine in DNA.	The base C, pairing with guanine in DNA.	The base A, pairing with thymine in DNA.
T6	T6	T6
A change in genetic material, such as a DNA sequence or chromosome structure.	A cellular structure that joins amino acids into a polypeptide using information from messenger RNA.	The base T in DNA, pairing with adenine.
T6	T6	T6
An alternative version of a gene found at the same locus on a chromosome.	Structures made of DNA and associated proteins that carry genetic information.	A haploid reproductive cell that can fuse with another during fertilisation.

T6 dominant	T6 recessive	T6 homozygous
T6 heterozygous	T6 genotype	T6 phenotype
T6 polydactyly	T6 cystic fibrosis	T6 embryo screening

T6 Having two identical alleles of a gene.	T6 Describing an allele whose effect is masked by a dominant allele in a heterozygote.	T6 Describing an allele whose effect is expressed in a heterozygote.
T6 The observable characteristics of an organism, resulting from its genotype and environmental influences.	T6 The genetic constitution of an organism, or the alleles it has at specified loci.	T6 Having two different alleles at a particular gene locus.
T6 Testing an embryo for a genetic disorder before implantation.	T6 An inherited condition caused by variants affecting the CFTR protein, leading to abnormal salt and water transport and thick mucus in organs such as the lungs.	T6 A condition in which a person is born with extra fingers or toes; it can be inherited.

T6 sex determination	T6 variation	T6 evolution
T6 natural selection	T6 inbreeding	T6 GM crop
T6 vector (genetic engineering)	T6 plasmid	T6 tissue culture

T6	T6	T6
Change in the inherited characteristics of populations across generations.	Differences in characteristics between individuals or values within a set.	In the human model here, inheritance of X and Y chromosomes helps determine biological sex.
T6	T6	T6
A genetically modified crop plant, for example with added pest resistance.	Reproduction between closely related individuals.	The process in which inherited traits that improve survival and reproduction become more common in a population over generations.
T6	T6	T6
Growing cells or small tissue samples under controlled conditions to produce new plantlets here.	A usually circular DNA molecule that replicates separately from a cell's main chromosome; engineered plasmids can carry inserted genes as vectors.	A carrier, such as a plasmid, used to transfer genetic material into a cell.

T6 cuttings	T6 embryo transplants	T6 adult cell cloning
T6 selection pressure	T6 speciation	T6 warning colouration
T6 antibiotic resistance	T6 evolutionary tree	T6 trace fossil

T6 Producing an embryo using a body-cell nucleus placed in an egg whose nucleus has been removed.	T6 Transfer of embryos into recipient mothers; splitting an embryo first can produce genetically identical offspring.	T6 Pieces of a plant grown to produce new plants.
T6 Conspicuous colours or patterns that can signal a defence to potential predators.	T6 The formation of new species, involving reproductive isolation in the model taught here.	T6 An environmental influence changing the relative survival or reproductive success of inherited variants, affecting which become more common.
T6 A preserved sign of activity, such as a footprint or burrow.	T6 A branching diagram representing proposed evolutionary relationships and common ancestry.	T6 The ability of bacteria to survive or continue growing despite a particular antibiotic.

T6 common ancestor	T6 kingdom	T6 phylum
T6 class	T6 order	T6 family
T6 genus	T6 species	T6 binomial system

T6 A taxonomic rank below kingdom and above class.	T6 A broad taxonomic rank below domain and above phylum.	T6 An ancestral organism or population from which two or more evolutionary lineages descended.
T6 A taxonomic group of related genera, ranked below order and above genus.	T6 A taxonomic rank below class and above family.	T6 A taxonomic rank below phylum and above order.
T6 Naming a species with two words: its genus followed by its specific name.	T6 A group of organisms whose members can usually interbreed to produce fertile offspring.	T6 A taxonomic group containing one or more closely related species.

T6 three-domain system	T6 archaea	T6 eukaryota
T7 deforestation	T7 global warming	T7 food chains
T7 ecosystem	T7 community	T7 population

T6 The domain containing organisms with eukaryotic cells, including animals, plants, fungi and protists.	T6 A domain of prokaryotic organisms distinct from bacteria; many inhabit extreme environments.	T6 Classification into Bacteria, Archaea and Eukaryota based on evidence of evolutionary relationships.
T7 A sequence showing how energy and matter pass through feeding relationships from one organism to another.	T7 A long-term rise in Earth's average surface temperature.	T7 The removal of forest cover, often to convert the land to another use.
T7 All the organisms of one species living in a particular area at a particular time.	T7 All the populations of different species living and interacting in an area.	T7 A community of organisms interacting with each other and with their physical environment.

T7 species	T7 competition	T7 territory
T7 predator	T7 prey	T7 interdependence
T7 pollinate	T7 abiotic factor	T7 biotic factor

T7	T7	T7
An area defended by an organism or group against competitors.	Rivalry between organisms, people or businesses for limited resources or opportunities.	A group of organisms whose members can usually interbreed to produce fertile offspring.
T7	T7	T7
The reliance of organisms on one another for resources or services such as food, shelter or pollination.	An organism eaten by a predator.	An organism that captures and feeds on another organism.
T7	T7	T7
A living influence on an organism, such as predation or competition.	A non-living influence, such as temperature or soil pH.	To transfer pollen from an anther to a stigma in the flowering-plant model.

T7 pathogens	T7 adaptation	T7 migration
T7 extremophile	T7 producer	T7 biomass
T7 primary consumer	T7 secondary consumer	T7 quadrat

T7	T7	T7
Movement of organisms between areas, often seasonally.	A characteristic that helps an organism survive and reproduce in its environment.	Disease-causing agents, such as certain bacteria, viruses, fungi or parasites.
T7	T7	T7
Organic material of living or recently living organisms, measured as mass in an ecological system and also usable as a fuel.	An organism that makes organic molecules from inorganic materials using light or chemical energy.	An organism adapted to conditions, such as very high temperature or acidity, that are extreme for most life.
T7	T7	T7
A frame marking a known area used to sample the abundance or distribution of organisms.	An organism feeding on primary consumers, occupying the third trophic level in a simple food chain; an omnivore can also have this feeding role.	An organism that obtains energy by feeding on producers.

T7 transect	T7 evaporation	T7 transpiration
T7 condensation	T7 precipitation	T7 stomata
T7 decomposition	T7 compost	T7 tangent

T7 The loss of water vapour from a plant's aerial parts, mainly through its stomata.	T7 The escape of particles from the surface of a liquid into its vapour without the whole liquid boiling.	T7 A line or strip along which observations or samples are taken to study changes across a habitat.
T7 Small pores in plant epidermis, controlled by guard cells, through which gases and water vapour pass.	T7 Water falling from clouds as rain, snow or other forms.	T7 The change of a substance from a gas to a liquid.
T7 A straight line that touches a curve at a point and has the same direction there.	T7 Decayed organic material used to improve soil.	T7 The breakdown of dead organic matter and waste into simpler substances, chiefly through the activity of decomposers.

T7 biodiversity	T7 pollution	T7 sewage
T7 fertiliser	T7 landfill	T7 peat
T7 methane	T7 extinction	T7 greenhouse gases

T7 Wastewater containing human waste and other materials carried away from buildings.	T7 The introduction of substances or energy into the environment at levels that cause harm.	T7 The variety of life, including genetic diversity, species diversity and ecosystem diversity.
T7 Partly decomposed plant material accumulated in waterlogged conditions where decomposition is slow.	T7 Disposal of waste by burying it in designated sites.	T7 A material added to soil or plants to supply mineral nutrients.
T7 Atmospheric gases that absorb and emit infrared radiation and contribute to the greenhouse effect.	T7 The disappearance of a species when its last surviving individual dies.	T7 The simplest alkane, with molecular formula CH₄.

T7 breeding programmes	T7 endangered species	T7 field margins
T7 hedgerows	T7 trophic levels	T7 herbivores
T7 carnivores	T7 tertiary consumer	T7 apex predators

T7 Strips at the edges of fields that can provide habitat for wild plants and animals.	T7 A species facing a high risk of extinction.	T7 Managed reproduction intended to maintain or increase populations, for example in conservation.
T7 Animals that feed on plant material.	T7 Positions in a feeding chain, such as producer, primary consumer and secondary consumer.	T7 Lines of shrubs and trees forming field boundaries and wildlife habitats.
T7 Predators at the top of a stated food web, with no regular predators as adults.	T7 An organism feeding on secondary consumers, occupying the fourth trophic level in a simple food chain; it need not be the ecosystem's top predator.	T7 Animals that feed on other animals.

T7 pyramid of biomass	T7 faeces	T7 food security
T7 mesh	T7 fishing quotas	T7 Fusarium
T7 mycoprotein		

T7 Reliable access to enough safe, nutritious food for an active and healthy life.	T7 Material expelled from the digestive tract containing undigested food residues, bacteria and other waste.	T7 A diagram with bar widths representing the biomass at successive trophic levels.
T7 A fungus grown on glucose syrup in aerobic conditions.	T7 Limits on the amount of fish that may be caught, intended to support stock management.	T7 The openings between the strands of a net.
		T7 Protein-rich food made from the fungus <i>Fusarium</i> grown in fermenters.