

GCSE Biology Glossary

absorption the movement of digested food molecules through the wall of the intestine into the blood or lymph

accommodation the change of shape of the lens, in order to focus on objects at different distances

active immunity defence against a pathogen by antibody production in the body

active site the part of an enzyme molecule into which its substrate fits

active transport the movement of molecules and ions in or out of a cell through the cell membrane, from a region of their lower concentration to a region of their higher concentration against a concentration gradient, using energy released during respiration

adaptation (adaptive feature) a feature of an organism that helps it survive in its environment

adaptive features the inherited functional features of an organism that increase its fitness

adipose tissue tissue made up of cells in which fat is stored

adrenaline a hormone secreted by the adrenal glands, which prepares the body for 'fight or flight'

adult stem cell a cell in an adult that can give rise to a limited range of specialised cells

aerobic respiration the release of a relatively large amount of energy in cells by the breakdown of nutrient molecules in the presence of oxygen

allele any of two or more alternative forms of a gene

alimentary canal part of the digestive system; a long tube running from mouth to anus

alveolus (plural: alveoli) an air sac in the lungs, where gas exchange occurs

amino acids molecules that can link together in long chains to form proteins; they contain carbon, hydrogen, oxygen and nitrogen, and sometimes sulfur

amniotic fluid fluid secreted by the amnion, which supports and protects a developing fetus

amylase an enzyme which breaks down starch to maltose

anaerobic respiration the release of a relatively small amount of energy by the breakdown of nutrient molecules in the absence of oxygen

anatomy the detailed body structure of an organism

anther the part of a stamen in which pollen is produced

antibiotic a drug that kills bacteria in the human body, without damaging human cells

antibodies chemicals secreted by lymphocytes, which attach to antigens and help to destroy them

antigens chemicals on the surfaces of pathogens, which are recognised as foreign by the body

artery a blood vessel that carries blood away from the heart

artificial selection the choice by a farmer or grower of only the 'best' parents to breed, generation after generation

asexual reproduction the process resulting in the production of genetically identical offspring from one parent

assimilation the movement of digested food molecules into the cells of the body where they are used, becoming part of the cells

atrioventricular valves valves between the atria and ventricles in the heart that prevent blood flowing from the ventricles into the atria

auto-immune disease a disease caused by a person's own immune system attacking parts of their body

auxin a plant hormone which causes cells to elongate

axon a nerve fibre that conducts impulses away from the cell body

balanced diet a diet containing some of each of the different types of nutrients, in a suitable quantity and proportions

base in DNA, one of four substances (A, C, G and T) that make up the genetic code

bile a liquid made in the liver, stored in the gall bladder and emptied into the small intestine, where it helps to emulsify fats

binomial a two-word Latin name for a species of organism

biuret test a test for protein

breathing muscular movements which cause air to move into and out of the lungs

bronchioles the small tubes into which the bronchi branch

bronchus (plural: bronchi) one of the two tubes into which the trachea branches, carrying air into each lung

capillaries a tiny blood vessel that delivers blood to tissues

carbohydrase an enzyme that catalyses the breakdown of carbohydrates

carbohydrates starches and sugars

carcinogen a substance which increases the risk of a person's body developing cancer

cardiac muscle the muscle of which the heart is made

carnivore an animal that gets its energy by eating other animals

carpel the female part of a flower

catalase an enzyme found in almost all living tissues, which catalyses the breakdown of hydrogen peroxide to water and oxygen

catalyst a substance that speeds up a chemical reaction and is not changed by the reaction

cell membrane a very thin layer of fat and protein that surrounds every living cell

cell sap a solution of sugars and other substances inside the vacuole of a plant cell

cellulose a polysaccharide carbohydrate which forms fibres and is found in the cell walls of plant cells

central nervous system the brain and spinal cord

chemical digestion the breakdown of large molecules of food into smaller ones, done by enzymes

chlorophyll a green, light-absorbing pigment found inside chloroplasts in plant cells

chloroplast an organelle found in some plant cells, which contains chlorophyll and where photosynthesis takes place

chromosome a thread-like structure of DNA, made up of a string of genes

cholera a disease caused by a water-borne bacterium, which causes severe diarrhoea

chyme the partly-digested food, that moves from the stomach into the small intestine

cilia tiny extensions on the surface of a cell, which can wave in unison and cause fluids to move

ciliary muscle a ring of muscle around the lens, which can change its shape

cirrhosis a disease of the liver in which the cells are permanently damaged

clone a group of genetically identical organisms

codominance a situation in which both alleles in a heterozygote have an effect on the phenotype

common ancestor a species that lived long ago that is thought to be a distant ancestor of two or more species living today

community all the organisms, of all the different species, living in an area at the same time

cone cell a light-sensitive cell in the retina, which responds to light of a particular colour

consumer an organism that gets its energy by feeding on other organisms

continuous variation differences in the features of a group of organisms in which there are no definite categories; each individual's features can lie anywhere between two extremes

coronary heart disease a condition in which the coronary arteries become partly blocked

corpus luteum the structure that forms in an ovary after an egg has been released; it secretes progesterone

cortex in a kidney, the outer layer; in a plant stem or root, a tissue made of typical plant cells (usually, however, without chloroplasts)

cotyledons food storage structures in a seed, which sometimes come above ground during germination and begin to photosynthesise

cross-pollination the transfer of pollen from the anther of one plant to the stigma of another plant of the same species

cuticle a layer of wax on a leaf

cytoplasm jelly-like material that is found in cells

deamination a metabolic reaction that takes place in the liver, in which the nitrogen-containing part of amino acids is removed to form urea, followed by the release of energy from the remainder of the amino acid

death phase a stage where the number in a population falls rapidly towards zero

decomposer an organism that gets its energy from dead or waste organic matter

deforestation the destruction of large areas of forest

denatured an enzyme is said to be denatured when its molecule has changed shape so much that the substrate can no longer fit into it

denitrifying bacteria bacteria that obtain their energy by converting nitrate ions into nitrogen gas

deoxygenated blood blood containing only a little oxygen

depressant a drug that inhibits the nervous system and slows it down

dialysis exchange of substances between two solutions through a partially permeable membrane; dialysis machines are used in the treatment of people with kidney failure

diastole the stage of a heart beat in which the muscles in the heart relax

dichotomous branching into two

diffusion the net movement of molecules from a region of their higher concentration to a region of their lower concentration down a concentration gradient, as a result of their random movement

digestion the break-down of large, insoluble food molecules into small molecules using mechanical and chemical processes

diploid having two sets of chromosomes

disaccharide a complex sugar; a carbohydrate whose molecules are made of two sugar units

discontinuous variation differences in the features of a group of organisms where each fits into one of a few clearly defined categories

DNA the chemical from which genes and chromosomes are made

dominant an allele that is expressed if it is present (e.g. T or G)

dormant a condition in which an organism shuts its metabolism down, so that it can survive in adverse conditions

double circulatory system a system in which blood passes twice through the heart on one complete circuit of the body

drug any substance taken into the body that modifies or affects chemical reactions in the body

ecosystem a unit containing all of the organisms and their environment, interacting together, in a given area e.g. decomposing log or a lake

ectothermic unable to regulate body temperature physiologically; the organism's temperature varies with that of its environment

effector a part of the body that responds to a stimulus, e.g. a muscle or a gland

egestion the passing out of food that has not been digested, as faeces, through the anus

egg a female gamete

embryo a young organism before birth, and before all the body organs have formed

embryonic stem cell a cell in an embryo that is capable of giving rise to all types of specialised cell

emphysema a disease in which the walls of the alveoli in the lungs break down, reducing the surface area for gas exchange

emulsification breaking large globules of fat into tiny droplets, so that they mix easily with water

endocrine glands the ductless glands that secrete hormones into the blood and together make up the endocrine system

endothermic able to internally regulate body temperature; the body temperature is independent of the temperature of the environment

enhanced greenhouse effect the increase in the greenhouse effect caused by the addition of more greenhouse gases to the atmosphere

enzymes proteins that function as biological catalysts

epidermis (mammal) the outer layer of the skin

epidermis (plant) a tissue made up of a single layer of cells which covers the top and bottom of a leaf, and the outside of the stem and root

excretion removal from organisms of the waste products of metabolism (chemical reactions in cells including respiration) toxic materials and substances in excess of requirements

exponential phase (log phase) the stage in population growth when numbers increase exponentially

evolution the change in adaptive features of a population over time, as a result of natural selection

F1 generation the offspring from a parent homozygous for a dominant allele and a parent homozygous for the recessive allele

fermentation the breakdown of glucose by yeast, using anaerobic respiration; it produces carbon dioxide and alcohol

fertilisation the fusion of the nuclei of two gametes

fetus a young organism before birth, once all the body organs have formed

fibrin an insoluble protein that forms fibres that help in blood clotting

fibrinogen a soluble protein that is converted to insoluble fibrin when blood clots

filament the stalk of a stamen

fitness the probability of an organism surviving and reproducing in the environment in which it is found

flaccid a term used to describe a cell that has lost a lot of water, becoming soft

follicle a space inside an ovary in which an egg develops

food chain a chart showing the flow of energy (food) from one organism to the next beginning with a producer (e.g. mahogany tree → caterpillar → song bird → hawk)

food web a network of interconnected food chains showing the energy flow through part of an ecosystem

fovea the part of the retina where cones are most tightly packed

fruit an ovary of a plant after fertilisation; it contains seeds

FSH follicle stimulating hormone; a hormone secreted by the pituitary gland which causes the development of eggs in the ovaries

fully permeable able to let most substances pass through

- gametes** sex cells, e.g. eggs and sperm
- gas exchange** the entry of oxygen into an organism's body, and the loss of carbon dioxide
- gene** a length of DNA that is the unit of heredity and codes for a specific protein.
- gene mutation** a change in the base sequence of DNA
- genetic diagram** the conventional way to set out a genetic cross
- genetic engineering** taking a gene from one species and putting it into another species
- genotype** the genetic makeup of an organism in terms of the alleles present (e.g. Tt or GG)
- genus** (plural: **genera**) a group of similar and related species
- glomerulus** a tangle of blood capillaries in a Bowman's capsule in the kidney
- glucagon** a hormone secreted by the pancreas, which increases blood glucose level
- glycogen** the polysaccharide that is used as an energy store in animal cells and fungi
- goblet cells** cells which secrete mucus
- gravitropism** a response in which a plant grows towards or away from gravity
- greenhouse effect** the warming effect of carbon dioxide, methane and other greenhouse gases, on the Earth
- growth** a permanent increase in size and dry mass by an increase in cell number or cell size or both
- guard cell** one of two sausage-shaped cells in the epidermis in plants, between which there is a hole called a stoma; the guard cells can change shape to open and close the stoma
- habitat** the place where an organism lives
- haploid** having one set of chromosomes
- hepatic portal vein** a blood vessel that transports blood from the digestive system to the liver
- herbivore** an animal that gets its energy by eating plants
- heterozygous** having two different alleles of a gene (e.g. Tt or Gg), not pure-breeding
- hilum** the scar where a seed was attached to a fruit
- homeostasis** the maintenance of a constant internal environment
- homologous chromosomes** the two chromosomes of a pair in a diploid cell; they have genes for the same features at the same positions
- homozygous** having two identical alleles of a particular gene (e.g. TT or gg). Two identical homozygous individuals that breed together will be pure-breeding
- hormone** a chemical substance produced by a gland, carried by the blood, which alters the activity of one or more specific target organs and is then destroyed by the liver
- hydrophyte** a plant adapted to live in wet conditions
- hyperglycaemia** having too much glucose in the blood
- hypertension** high blood pressure
- hypoglycaemia** having too little glucose in the blood
- hypothalamus** a part of the brain that helps to regulate body temperature
- immune** able to fight off a particular type of pathogen before it causes any symptoms in the body
- implantation** the movement of a young embryo into the lining of the uterus, and its attachment there
- ingestion** taking substances (e.g. food, drink) into the body through the mouth
- inheritance** the transmission of genetic information from generation to generation
- inorganic** substances that are not made by living organisms
- insulin** a hormone secreted by the pancreas, which reduces blood glucose level
- intercostal muscles** muscles between the ribs, which help to produce breathing movements
- involuntary action** an action taken automatically, without conscious thought
- iris** the coloured part of the eye, which controls the amount of light allowed through to the lens and retina
- islets of Langerhans** groups of cells in the pancreas which secrete insulin and glucagon
- key** a series of questions whose answers lead you to the identification of an organism
- kingdom** one of the five large groups into which all living organisms are classified
- kwashiorkor** a deficiency disease caused by lack of protein in the diet
- lactation** production of milk by mammary glands
- lag phase** the early stage of population growth, when numbers scarcely change
- lamina** the main part of a leaf
- LH** luteinising hormone; a hormone secreted by the pituitary gland which causes an egg to be released from an ovary
- light microscope** a microscope that uses light to produce images
- lignin** a tough, waterproof material that makes up the walls of xylem vessels; wood is mostly lignin

limiting factor something present in the environment in such short supply that it restricts life processes

lipase an enzyme that digests fats (lipids) to fatty acids and glycerol

lipids fats, oils and waxes

log phase (exponential phase) the stage in population growth when numbers increase exponentially

lymph the fluid found inside lymph vessels, formed from tissue fluid

lymph nodes organs in which large numbers of white blood cells (which can destroy bacteria or toxins) collect

maltase an enzyme that breaks down maltose to glucose

marasmus a disease resulting from a severe lack of energy in the diet

maltose a disaccharide produced by the digestion of starch

mechanical digestion the breakdown of large pieces of food to smaller ones, increasing their surface area; it is done by teeth in the mouth and by the contraction of muscles in the stomach wall

medulla (in kidney) the central area in a kidney

meiosis reduction division in which the chromosome number is halved from diploid to haploid

memory cells cells produced by activated lymphocytes, that remain in the body and are able to respond quickly to a pathogen

menstruation the loss of the uterus lining through the vagina

mesophyll the tissues in the centre of a leaf, where photosynthesis takes place

metabolic reactions the chemical reactions that take place inside a living organism

micrometre 1×10^{-6} metres

micropyle a tiny hole in the testa of a seed

mineral an inorganic ion required in small quantities by living organisms

mitochondria organelles in which aerobic respiration takes place, releasing energy for use by the cell

mitosis nuclear division giving rise to genetically identical cells in which the chromosome number is maintained by the exact duplication of chromosomes

monoculture a large area of the same crop plant

monosaccharide a simple sugar; a carbohydrate whose molecules are made of one sugar unit

morphology the overall shape and form of an organism's body

movement an action by an organism or part of an organism causing a change of position or place

mutagen a substance that causes mutations

mutation a change in a gene or a chromosome

myelin a fatty substance surrounding the axons of many neurones, enabling the nerve impulse to travel faster

natural selection the greater chance of passing on of genes by the best-adapted organisms

nectary a gland producing a sugary fluid, found in many insect- or bird-pollinated flowers

negative feedback a mechanism used in homeostasis, in which a change in a parameter brings about actions that push it back towards normal

nephron one of the thousands of tiny tubules in a kidney, in which urine is produced

nerve a bundle of axons or dendrons belonging to many different neurones

nerve impulse an electrical signal that sweeps along a neurone

neurone a nerve cell; a cell specialised for the rapid transfer of electrical impulses

nicotine an addictive drug found in tobacco smoke

nitrifying bacteria bacteria that obtain their energy by converting ammonia or nitrite ions to nitrate ions

nitrogen fixation changing unreactive nitrogen gas into a more reactive nitrogen compound such as nitrate or ammonia

nitrogenous waste excretory products containing nitrogen – for example, ammonia, urea, uric acid

non-biodegradable not able to be broken down by microorganisms

normal distribution a curve in which the largest number occurs near the midpoint, with approximately equal quantities on either side of this point and a gradual decrease towards the extremes

nucleus a large organelle in which chromosomes are found

nutrition taking in materials that are required for energy, growth and development

oesophagus the part of the alimentary canal along which food travels from the mouth to the stomach

oestrogen a hormone secreted by the ovaries that helps to control the menstrual cycle

optimum temperature the temperature at which something happens most rapidly

organ a structure made up of a group of tissues, working together to perform specific functions

organ system a group of organs with related functions, working together to perform body functions

organelle a structure within a cell

organic a term used to describe substances that have been made by living organisms, or whose molecules contain carbon, hydrogen and oxygen

organism a living thing

osmosis the diffusion of water molecules from a region of high water potential to a region of lower water potential, through a partially permeable membrane

ovary an organ in which female gametes are made

oviduct the tube leading from an ovary to the uterus

ovulation the release of an egg from an ovary

ovule a structure in the ovary of a flower which contains a female gamete

oxygen debt the extra oxygen that must be taken in by the body following strenuous exercise, when anaerobic respiration took place; the oxygen is needed to break down the lactic acid that accumulated as a result of anaerobic respiration

oxygenated blood blood containing a lot of oxygen; in humans, blood becomes oxygenated in the lungs

palisade layer the upper mesophyll layer in a leaf, made up of rectangular cells containing many chloroplasts

pancreas an organ lying close to the stomach, which is both an endocrine gland (producing insulin and glucagon) and an exocrine gland (producing pancreatic juice)

pancreatic juice the liquid secreted into the pancreatic duct by the pancreas; it flows into the duodenum where its enzymes help with digestion of fats, proteins and carbohydrates

partially permeable allowing some molecules to pass through, but not others

passive immunity having antibodies provided from another organism, that temporarily protect against a pathogen

pathogen a disease-causing organism

pelvis (in kidney) the part from which the ureter emerges

penicillin an antibiotic which destroys bacteria by damaging their cell walls

pepsin a protease enzyme found in the stomach

peripheral nervous system all the nerves and receptors in the body, not including the brain or spinal cord

peristalsis rhythmic contractions of muscles that ripple along a tube – for example, peristalsis pushes food through the alimentary canal

petiole a leaf stalk

phagocytes white blood cells that surround, engulf and digest pathogens

phenotype the physical or other features of an organism due to both its genotype and its environment (e.g. tall plant or green seed)

phloem tubes long tubes made up of living cells with perforated end walls, which transport sucrose and other substances in plants

photosynthesis the process by which plants manufacture carbohydrates from raw materials using energy from light

phototropism a response in which a plant grows towards or away from the direction from which light is coming

placenta in mammals, an organ made up of tissues of both the mother and embryo, through which the mother's and embryo's bodies exchange nutrients and waste materials

plaque a sticky film, containing bacteria, that builds up on teeth

plasma the liquid part of blood, in which the cells float

plasmolysed the condition of a plant cell that has lost so much water that its cytoplasm shrinks and pulls the cell membrane away from the cell wall

platelets tiny fragments of cells found in blood, which help with clotting

plumule the young shoot in an embryo plant

pollen grains tough, resistant structures containing the male gametes of a flower

pollination the transfer of pollen from the male part of the flower (anther of stamen) to the female part of the plant (stigma)

polysaccharide a carbohydrate whose molecules are made of hundreds of sugar units linked in long chains – for example, starch, glycogen and cellulose

population a group of organisms of one species, living in the same area at the same time

predator an animal that kills and eats other animals

primary consumers herbivores

process of adaptation the process resulting from natural selection, by which populations become more suited to their environment over many generations

producer an organism that makes its own organic nutrients, usually using energy from sunlight, through photosynthesis

product the substance formed in an enzyme-controlled reaction

progesterone the pregnancy hormone; a hormone secreted by the ovaries and placenta which maintains the lining of the uterus

prostate gland a gland close to a male's bladder, that secretes fluid in which sperm can swim

protease an enzyme that catalyses the breakdown of proteins

puberty the stage of development during which sexual maturity is reached

pulmonary relating to the lungs

pure-breeding homozygous

pyramid of biomass a sideways-on graph, in which the size of the boxes represents the dry mass of organisms in each trophic level of a food chain

pyramid of numbers a sideways-on graph, in which the size of the boxes represents the number of organisms in each trophic level of a food chain

radicle the young root in an embryo plant

receptor a cell that is able to detect changes in the environment; often part of a sense organ

recessive an allele that is only expressed when there is no dominant allele of the gene present (e.g. t or g)

reducing sugar a sugar that turns Benedict's solution brick red when heated

reflex action a fast, automatic response to a stimulus

reflex arc the arrangement of neurones along which an impulse passes during a reflex action

renal relating to the kidneys

respiration the chemical reactions in cells that break down nutrient molecules and release energy for metabolism

retina the part of the eye that contains receptor cells

ribosome tiny organelles where protein synthesis takes place

rod cell a light-sensitive cell in the retina, that responds to dim light

root cap a tough, protective covering over the tip of a root

rough endoplasmic reticulum a network of membranes inside a cell, on which ribosomes are present

secondary consumers carnivores that eat herbivores

seed an ovule after fertilisation; it contains an embryo plant

selection pressure an environmental factor that causes organisms with certain characteristics to have a better chance of survival than others

self-pollination the transfer of pollen from the anther to the stigma on the same plant (but not necessarily the same flower)

semen a mixture of sperm and fluids from the prostate gland and seminal vesicles

seminal vesicles glands that secrete fluid in which sperm can swim

sense organs groups of receptor cells responding to specific stimuli: light, sound, touch, temperature and chemicals

sensitivity the ability to detect or sense changes in the environment (stimuli) and to make appropriate responses

sex-linked characteristic characteristic in which the gene responsible is located on a sex chromosome, which makes it more common in one sex than in the other

sex-linked gene a gene found on the X chromosome but not on the Y chromosome

sexually-transmitted infection an infection that is transmitted via bodily fluids through sexual contact

sexual reproduction the process involving the fusion of haploid nuclei to form a diploid zygote and the production of genetically dissimilar offspring

sickle cell anaemia a condition caused by a codominant allele of the gene that codes for haemoglobin, in which a person has two copies of the gene and suffers serious health problems

simple sugar a monosaccharide; a carbohydrate whose molecules are made of one sugar unit

sink a place to which substrates are transported in phloem

solvent a liquid in which another substance is dissolved

source a place from which substances are transported in phloem

species a group of organisms with similar characteristics, which can interbreed with each other to produce fertile offspring

species diversity the number of different species living in a habitat

sperm a male gamete

sphincter muscle a muscle surrounding a tube, which can contract to close the tube

spongy layer the tissue beneath the palisade layer in a leaf; it is made up of cells that contain chloroplasts and can photosynthesise, with many air spaces between them

stamen the male parts of a flower

starch the polysaccharide that is used as an energy store in plant cells

stationary phase a stage when the numbers in a population remain approximately constant

stem tuber a swollen part of a stem, which stores food

stigma the part of a flower that receives pollen

stimulant a drug that makes the nervous system work faster

stimulus a change in an organism's surroundings that can be detected by its sense organs

stoma (plural: **stomata**) a gap between two guard cells, usually in the epidermis on the lower surface of a leaf

style the connection between the stigma and ovary of a flower

substrate the substance on which an enzyme acts

sucrase a carbohydrase found in the small intestine, which breaks down sucrose to glucose and fructose

sucrose a disaccharide, non-reducing sugar, made of a glucose molecule and a fructose molecule linked together; the form in which carbohydrates are transported in the phloem of plants

suspensory ligaments a ring of ligaments linking the ciliary muscles to the lens

sustainable resource one which can be removed from the environment without it running out

sustainable development providing for the needs of an increasing human population without harming the environment

synapse a point at which an impulse can be passed from one neurone to another

synaptic cleft a tiny gap between two neurones

systole the stage of a heart beat in which the muscles in the walls of the heart chambers contract

target organ an organ that is affected by a hormone

tendons strong, inelastic cords of tissue, which attach muscles to bones; they are also found in the heart, where they attach the atrioventricular valves to the wall of the ventricle

test cross breeding an offspring with the dominant phenotype with an organism with the recessive phenotype; the offspring of the cross can help to determine the genotype of the parent with the dominant phenotype

testis (plural: testes) an organ in which sperm are made

testosterone a hormone secreted by the testes, which causes male characteristics

tissue a group of cells with similar structures, working together to perform a shared function

tissue fluid the fluid that surrounds all the cells in the body, formed from blood plasma that leaks out of capillaries

toxin a poisonous substance

trachea the tube that carries air from the nose and mouth down to the lungs

translocation the movement of sucrose and amino acids in phloem, from regions of production to regions of storage, or to regions of utilisation in respiration or growth

transmissible disease a disease caused by a pathogen that can be passed from one person to another

transmitter substance a chemical that carries a nerve impulse across a synapse

transpiration evaporation of water at the surfaces of the mesophyll cells followed by loss of water vapour from plant leaves, through the stomata

transpiration stream the pathway of water from the root hairs of a plant, up the root and stem and out of the leaves into the atmosphere

trophic level the position of an organism in a food chain, food web or pyramid of biomass, numbers or energy

tropism a plant growth response to a stimulus, in which the direction of growth is related to the direction of the stimulus

trypsin a protease enzyme found in pancreatic juice

turgid a term used to describe a plant cell that has absorbed water and has cytoplasm that is pressing outwards on the cell wall

type 1 diabetes a condition in which the pancreas is unable to make insulin

umbilical cord an organ linking an embryo to the placenta, containing blood vessels

unicellular made of one cell

urea the main nitrogenous excretory product of mammals, produced in the liver from excess amino acids

ureter a tube that leads from a kidney to the bladder

urethra a tube that leads from the bladder to the outside

urine a solution of urea and other excretory products in water, produced by the kidneys

uterus the organ in a mammal in which the embryo develops

vaccination the introduction to the body of dead or weakened pathogens, to make a person immune to an infectious disease

variation differences between individuals of the same species

vascular bundle a vein in a plant, containing xylem vessels and phloem tubes

vasoconstriction narrowing of blood vessels

vasodilation widening of blood vessels

vein a blood vessel that carries blood towards the heart

vesicle a very small vacuole (space inside a cell)

villus (plural: villi) a tiny, finger-like process on the inner wall of the small intestine; villi increase the surface area for digestion and absorption

vitamins organic substances required in small quantities in the diet

voluntary action an action taken as the result of a conscious decision

water potential a measure of the tendency for water to move out of a solution; the more water in the solution, the greater its water potential

xerophyte a plant adapted to live in dry conditions

xylem vessels long hollow tubes made up of dead, empty cells with lignified walls, which transport water in plants and help to support them

zygote the diploid cell produced when two gametes fuse