

*Lutterworth High School
Science Department*

Science Dictionary

For Key Stage 3



Science Dictionary

Words in *italics* appear elsewhere in the Dictionary.

A

abdomen: 1. in *vertebrates*, the area below the *thorax*
2. lower section of an *insects* body

abrasion: when something is worn away by *particles*

absorb, absorption: 1. when living *cells* or *blood* take in *dissolved food* or *oxygen*
2. when something 'soaks up' light rather than *reflecting* it or letting it pass through

accelerate, acceleration: to *speed up* or go faster

accurate: exact or correct

acid rain: rain that is *acidic* because it has *sulphur dioxide* and/or *nitrogen dioxides* *dissolved* in it

acids: 1. a substance that turns *litmus* red; has a *pH* of less than 7.

2. *solutions* that react with many *metals* to produce a *salt* and *hydrogen*, and that react with *alkalis* to produce a *salt* and *water*

acne: spots on the *skin*

adapted, adaptation: when plants or animals have *characteristics* or *features* that make them suitable for where they live

addiction: when a person can't do without a *drug*

addictive: a *drug* that is addictive makes you unable to stop taking it

adolescence: time when both physical and emotional changes occur in humans; change from child to adult.

adolescent: a person who is no longer a child, but is not yet an adult

aerobic respiration: using *oxygen* to break down *food* to release *energy*

afterbirth: the *placenta* and membranes pushed out of the *uterus* after a baby is born

AIDS: a *disease* caused by the *HIV virus* which leads to the weakening of the *immune* system. Short for **acquired immunodeficiency syndrome**

air: a *mixture* of *gases*, mainly *nitrogen* and *oxygen*, that surrounds us

air pollution: *harmful gases* such as *sulphur dioxide* or *nitrogen dioxides* in the *air*

air resistance: the *friction force* on something moving through *air*; also called *drag*

air sacs: small sacs at the ends of the *bronchioles* in the *lungs*. Also called *alveoli* (one an alveolus)

albino: an *organism* with no colouring

alcohol: a chemical which can be used as a *drug*

algae: simple plants without *leaves*. Includes microscopic plants and seaweeds. One is an alga

align: to bring things into line

alimentary canal: see *digestive system*

alkalis: 1. a substance that turns *litmus* blue; has a *pH* of more than 7.

2. the opposite of *acids*; they react with *acids* to produce *salts*

allotropes: different forms of the same *element*

alloy: a *mixture* of different *metals*

alternating current (ac): electrical *current* that reverses its direction repeatedly

altitude sickness: an illness that is caused by very low *air pressure*. It can be fatal

aluminium: a *metal* that you get from its *ore*, *bauxite*, using electricity

alveoli: see *air sacs*

amino acids: *carbon compounds* that *proteins* are built from

ammeter: a meter that is used to measure electric *currents* in *amperes*

ammonia: a *gas* composed of *nitrogen* and *hydrogen*

amnion: bag containing *amniotic fluid* during pregnancy.

amniotic fluid: *liquid* surrounding the growing *embryo* and protecting it

ampere (amp, A): the unit of electric *current*

amphibians: *vertebrates* with moist *skins*; they lay *eggs* without shells and return to *water* to *breed*

amplitude: the size of the *vibrations* that produce a sound; a large amplitude produces a *loud* sound

amylase: *enzyme* that breaks down *starch* to *sugar*

anaemia: a *deficiency disease* caused by a lack of *iron* in the *diet*. The body cannot make enough *red blood cells* to carry *oxygen* around the body and so the sufferer feels tired and lacks *energy*

anaerobic respiration: does not need *oxygen* to break down *food* to release *energy*

analyse, analysis: to investigate or examine by breaking it down into parts

angiosperm plant that produces *seeds*

angle of incidence: the angle between the *normal* and a *ray* of light hitting a *mirror* or object

angle of reflection: the angle between the *normal* and a *ray* of light leaving a *mirror*

angle of refraction: angle between the light *ray* and the *normal* as it passes through an interface

anhydrous: does not contain *water*

annelid worms: worms with soft, round, *segmented* bodies: also known as *true worms*

anode: the *positive electrode* in *electrolysis*

anomalous result: a *result* which does not fit a trend or *pattern*. On a *graph*, it is a point that does not fit on the *line of best fit*

antacid: *medicine* containing an *alkali* used to *neutralise* some of the *acid* in the *stomach* to treat indigestion

antagonistic pair: two *muscles* that work a *joint* by pulling in opposite directions, e.g. the *biceps* and *triceps* in the upper arm

antenna: structures on an animals head used to *sense* things. Plural antennae

anther: part of a *flower* that makes *pollen*

antibiotics: *drugs* used to kill *bacteria* in the body

antibodies: chemicals made by white *blood cells* to destroy *bacteria* and other *microbes*

anti-clockwise: opposite of *clockwise*

antigens: substances which the body recognizes as alien and which induces an *immune response*, producing *antibodies*. Also known as *pathogens*

antiseptic: weak *disinfectant* that is safe to use on human *skin*

anus: the opening at the end of the *digestive system*

apparatus: equipment used in the laboratory

appendix: small tube branching off the *large intestine*. It has no *function* in humans

approximate: when something is nearly correct but not exact

arachnid: *arthropod* with four pairs of legs, e.g. spider

armature: the *iron* part of a *relay* that moves when electricity is flowing in the *solenoid*

arteries: *blood vessels* which carry *blood* away from the *heart*. One is an artery

arthropods: *invertebrate* animals with an outer skeleton and jointed legs

artificial satellite: something orbiting a *planet* that is man-made

asexual reproduction: *reproduction* without the use of *sex cells*; one *parent* only

ash: powdery *residue* when something is burned

asteroid: a small lump of rock orbiting the *Sun*

asthma: a *disorder* of the tubes to the *lungs* that makes it difficult to *breathe*

astronomical unit (au): one unit is the *average* distance from the *Earth* to the *Sun*, 150 million km

atmosphere: layer of *gases* surrounding the *Earth* and some other *planets*

atom: the smallest *particle* of an *element*

atomic energy: another name for *nuclear energy*

attract, attraction: things pulling towards each other

atria: the two upper chambers of the *heart*; one is called an atrium

average: the *result* obtained by adding several amounts together and then dividing the total by the number of amounts

axis: an imaginary vertical line that goes from one *pole* of the *Earth* to the other. The *Earth* rotates around its *axis*.

B

bacteria: *microbes* that are *cells* without a true *nucleus*; one is called a bacterium

balance: an instrument used for weighing

balanced diet: eating a variety of *foods* to provide all the things the body needs

balanced equation: when the number of *atoms* of each *element* on both sides of a *symbol equation* is the same

balanced forces: two *forces* that are the same size but act in opposite directions

ball and socket joint: a skeletal *joint* in which the ball-shaped end of a *bone* lies in a socket, allowing movement and rotation in all directions

bar chart: a chart which displays values by means of vertical or horizontal bars

bar magnet: a straight *magnet*, shaped like a bar

basalt: *igneous* rock with very small *crystals*

base: a chemical which reacts with an *acid* to form a *salt*

battery: made from two or more electrical *cells* joined together. Plural batteries

bauxite: *aluminium ore*

beam: a collection of *light rays*

bell: a device that uses an *electromagnet* to make it ring

bends: another name for *decompression sickness*

biceps: the *muscle* that *contracts* to bend your arm

bi-concave lens: a *lens* where both sides curve inwards (concave)

bi-convex lens: a *lens* where both sides curve outwards (convex)

bile: a greenish-yellow *digestive juice* made in the *liver*

binocular vision: vision with each of two eyes seeing the same object from slightly different angles

biodegradable: a substance that can be broken down by *microbes*

biomass: 1. a *fuel* that comes from plants, animals or their *waste*, e.g. wood, *methane*
2. the *mass* of living *material*

biosphere: the region of the *Earth's* surface and the *atmosphere* in which *organisms* can live

biotechnology: the use of living *cells* in plants, animals and *microbes* to help solve problems and make new things

birds: *vertebrates* with feathers; they lay *eggs* with hard shells

bladder: a stretchy bag which stores *urine*

blast furnace: used for *smelting iron ore*

blood: *cells* and a *liquid* used for carrying *materials* through the body of an animal

boil, boiling: a *liquid* turning into a *gas*

boiling point: the *temperature* at which a *liquid* boils

bonds: the *forces* that hold *atoms* together in a *molecule*

bone: calcified material, the pieces of which make up the *skeleton* in *vertebrates*

brain: *organ* that *controls* what the body does

brakes: these use *friction* to slow down bicycles and motor vehicles

brass: an *alloy* of *copper* and *zinc*

breathe, breathing: taking *air* into and out of the *lungs*

breathing rate: the number of times you *breathe* per minute

breathing system: see *respiratory system*

breed: 1. a set of animals that are in some way different from other members of the same *species*
2. *reproduce* or make new young plants and animals

breeding: when two *organisms* of the same *species* mate to produce *offspring*

brine: a *solution* of common *salt* and *water*

brittle: breaks easily when bent or hit

bronchiole: tubes which branch from a *bronchus* into a *lung*

bronchus: air pipe between the *trachea* and a *lung*. Two are called bronchi

bronze: an *alloy* of *copper* and *tin*

budding: a type of *asexual reproduction* where a new small *cell* (bud) starts to *grow* out from another *cell*; the way *yeast cells* divide

burning: when substances react with *oxygen* and release *thermal energy*; also called *combustion*

buzzer: this uses an *electromagnet* to make a sound

C

caffeine: a *stimulant* that increases the *speed* that *nerves* carry *impulses*. It is found in coffee, tea and cola drinks

calcium: 1. a *metal element*

2. a *mineral nutrient* that is needed by living things. It strengthens *bones* and *teeth*

calcium carbonate: the chemical *compound* that *chalk*, *limestone* and *marble* are made from

calcium hydroxide: the substance made when *calcium oxide* reacts with *water*; it *dissolves* slightly in *water* to make *lime-water*

calcium oxide: a substance made by *thermal decomposition* of *limestone*

calx: a substance like the *ash* of a fire, that was left after a substance *burned*. Some scientists used to think that all substances were made of a *mixture* of *calx* and *phlogiston*

camouflage: use of natural colours or shape of an animal to blend in with its surroundings

cancer: a *disorder* in which *cells* grow out of *control*

canine: pointed biting tooth towards the front of the mouth

capillary: narrow *blood vessel* with walls only one *cell* thick. Two are called capillaries

carbohydrase: *enzyme* that breaks down *carbohydrates*

carbohydrates: *carbon compounds* used by living things as *food*, for example *starch* and *sugars* such as *glucose*

carbon: a *solid non-metal element*

carbon cycle: the way in which *carbon* moves around through different parts of the *environment*

carbonates: 1. *compounds* containing *carbon* and *oxygen*

2. *compounds* that react with *acids* to produce *carbon dioxide*

carbon dioxide: 1. a *gas* that is made from the *elements carbon* and *oxygen*, whose *molecules* are made from *carbon atoms* and *oxygen atoms*

2. a *gas* that puts out a lighted splint and turns *lime-water* milky

3. a *gas* used by plants in *photosynthesis* and made in *respiration*

carbon monoxide: a poisonous *gas* produced in small quantities when a car burns petrol or diesel

carcinogenic: having the potential to cause *cancer*

carnivore: an animal that eats other animals

carpel: female *reproductive organ* in a *flower*, consisting of *stigma*, *style* and *ovary*

carrier: an *organism* which does not show a *genetic characteristic* but which can pass it on to the next *generation*

cartilage: slippery substance that covers the ends of *bones* in *joints* to stop them wearing away

catalyst: a substance which *speeds up* a *chemical reaction* and which can be used over and over again; *enzymes* are *catalysts*

catalytic converter: a *metal catalyst* fitted to a car exhaust which helps to reduce *pollution*

cathode: the *negative electrode* in *electrolysis*

cell: 1. contains chemicals that produce an electric *current* when it is connected to a *complete circuit*

2. the building block that plants and animals are made from

cell division: when a *cell* splits into two

cell membrane: outer layer of the living part of a *cell*

cell sap: a *solution* of *sugars* and other substances found in the *vacuoles* of plant *cells*

cellulose: substance used to make plant *cell walls*

cell wall: outer supporting layer of a plant *cell* made of *cellulose*

cement: the *material* that holds the *grains* together in a *sedimentary rock*

cementation: process in which *water* flowing through the spaces between the *grains* of rock leaves *mineral salts* behind which stick (*cement*) the rock pieces together

centimetre (cm): 100 cm equal 1 *metre*

cervix: a ring of *muscle* at the bottom of the *uterus* in females

chalk: a soft white or grey *sedimentary rock* formed from the remains of microscopic *organisms* and so mainly made of *calcium carbonate*

characteristics: the special *features* of any plant or animal

charcoal: *impure* form of *carbon*

charges: these produce an electric *current* when they are moving and *static electricity* when they are standing still

chemical change: a change that produces new substances

chemical energy: *energy* stored in chemicals. *Food*, *fuels* and *batteries* all contain chemical *energy*.

chemical reaction: a reaction that produces new substances

chlorine: a *non-metal element*; it is a poisonous, greenish-yellow *gas*

chlorofluorocarbons (CFC's): *gases* used in aerosols and refrigerators that destroy the *ozone layer*

chlorophyll: the green substance in *chloroplasts* which traps *light energy*

chloroplasts: the parts of plant *cells* which contain *chlorophyll*

chromosome: string like threads, in the *nucleus* of a *cell*, containing *DNA* which contains the instructions for *inherited variation*

chromatogram: the separated substances, usually on paper, that you get by using *chromatography*

chromatography: a way of separating different *dissolved solids*, for example dyes

cilia: tiny hairs that move back and forth, found on the surface of some *cells*

ciliated: *cells* having *cilia* are 'ciliated'

circuit: a complete loop that electricity flows around

circuit diagram: an electric *circuit* drawn using *circuit symbols*

circulate, circulation: when *blood* flows through the *heart* and *arteries, capillaries* and *veins*

circulatory system: an *organ system* made up of the *heart* and *arteries, capillaries* and *veins*

citric acid: *acid* found in citrus *fruits*, e.g. lemons, oranges

class: a group of different *organisms* which are similar in some ways, e.g. *mammals*

classify, classification: sorting things into groups

clay soil: an *acidic soil* with very fine *particles*. It holds *water*

clockwise: the direction that the hands of a clock move round

clone an exact *genetic* copy of an *organism*

clot: when *blood* becomes *solid*; makes a 'scab' when it is on the surface of the *skin*

coal: a *fossil fuel* made from the remains of plants

cobalt: a *metal* that is a *magnetic material*

cochlea: part of the ear that changes *vibrations* into electrical *impulses*

coelenterates: *invertebrates* with tentacles and stinging *cells*; include *jellyfish*

combine: join together; *atoms* of different *elements* combine to make new substances

combustion: another word for *burning*

comet: a lump of rock and ice that moves in a very *elliptical orbit* around the *Sun*

community: all the plants and animals that live in a *habitat*

compaction: when layers of *sediment* or rock are squashed by the *weight* of *sediment* above them

compare: to look at the differences and similarities of two or more things

compass: see *magnetic compass*

compete, competition: when several plants or animals are all trying to get the same things

complete circuit: an unbroken chain of things that *conduct* electricity

component: a part in an electrical *circuit*, e.g. bulb, *switch*, motor

compound: a substance made from the *atoms* of two, or more, different *elements* joined together

compress; compression: to squeeze into a smaller space

concave lens: *lens* whose surface curves inwards

conclusion: a judgement or decision reached by reasoning

condense, condensing: changing a *gas* to a *liquid* by cooling it

condenser: piece of *apparatus* that cools down a *gas* to turn it into *liquid*

conditions: the state or *features* of an *environment* or of an experiment

conduct, conduction: the way electricity or *heat* travels through *solids*

conductor: 1. **electrical** a substance that an electrical *current* easily passes through
2. **thermal** a substance that *thermal energy* easily passes through

conglomerate: a *sedimentary* rock made of pebbles *cemented* together

conifers: plants which make *seeds* in cones

conservation: preserving or taking care of living things and their *habitats*

conservation of energy: *energy* cannot be created or destroyed, only changed from one form into another

conservation of mass: the total *mass* of all the *reactants* in a *chemical reaction* is the same as the total *mass* of all the *products*

constant: 1. an unvarying number or quantity
2. to keep the same

constellation: a group of *stars* that form a *pattern*

consumer: a living thing that eats other living things. Animals are *consumers*

continuous variation: differences in one feature that change gradually and have a *range* of values, e.g. height, *weight*

contraception: a method of preventing *pregnancy*

contract, contraction: 1. in the case of a *muscle*, become shorter and fatter; *muscles* do this to produce movement
2. *solids, liquids* and *gases* do this when they cool, get smaller

control: an experiment in which the *variable* being tested in a second experiment is kept *constant*. This establishes the *validity* of the second experiment

convection: the way *heat* travels through *liquids* and *gases*

convection current: a flow of *liquid* or *gas* caused by part of it being *heated* or cooled more than the rest

convex lens: *lens* whose surface curves outwards

copper: a *metal element* which is not very *reactive*

core: 1. a *solid* bar inside an *electromagnet*, usually made of *iron*

2. the middle of the *Earth*

correlation: connection between two *variables*, usually found by drawing a *graph*

corrode: when something reacts with chemicals in the *air* or *water* and gets worn away

corrosion: what happens to *metals* when they react with chemicals such as *water*, *oxygen* or *acids* in the *air*

corrosive: substances that attack *metals*, stonework and *skin* are said to be *corrosive*

courtship: a set *pattern* of behaviour in animals before mating

cover slip: thin piece of glass used to cover a specimen on a *slide*

crater: the depression found at the summit of a *volcano*

cross breeding: when different varieties of the same *species* are mated with one another

cross pollination: *transfer* of *pollen* from an *anther* to a *stigma* of a different plant

crude oil: *oil* from the ground, before it has been refined

crust: the *solid* rocks covering the surface of the *Earth*

crustacean: an *arthropod* with a *chalky* shell and 5 to 10 pairs of legs, e.g. lobster

crystal: a *mineral* with a regular shape

crystallisation: formation of *crystals*

current: electric *charges* flowing around a *complete circuit*

curve of best fit: curve that is the best fit for points on a *graph*

cuticle: waxy layer of *cells* on the upper surface of *leaves* that is waterproof

cyan: turquoise *secondary colour* made by mixing green and blue light

cytoplasm: the contents of a *cell* excluding the *nucleus*; the place where most *chemical reactions* happen

D

data: *results* of an experiment

database: a collection of related information arranged for easy access

data logger: a computer or electronic device set up to gather information from electronic sensors

day: 24 hours, the time that it takes the *Earth* to spin once on its *axis*

decay: 1. rot or cause to rot through the action of *bacteria* and *fungi*

2. undergo change to a different form by emitting *radiation*

decelerate, deceleration: to slow down or go slower; opposite to *acceleration*

decibel (dB): unit for measuring the loudness of sound

deciduous tree: a tree that loses its *leaves* in winter, e.g. oak

decompose: break down

decomposer: something that eats dead plants

decomposition: splitting up a *compound* into simpler substances

decompression sickness: bubbles in the *blood* caused if divers come up to the surface too quickly. It can be fatal

deficiency disease: *disease* caused by not having enough of something in the *diet*

degrees Celsius (°C): the units for *temperature*

dehydration: a serious lack of *water* in the body

demagnetise: remove or destroy the magnetic properties

denitrify, denitrifying: release *nitrogen* from *nitrates* or nitrites

dense: a *dense* substance has a lot of *mass* in a small *volume*

density: the *mass* of a certain *volume*, e.g. 1 cm³, of a substance

dependent variable: 1. a *variable* that is not changed during an experiment

2. a *variable* whose value depends on that of another

deposits: when moving *water* drops the rock fragments or *grains* that it has been carrying

depressant: *drug* that decreases the *speed* at which *nerves* carry *impulses*, e.g. *alcohol*

detergent: chemical cleaner that can have a *harmful* effect on the *environment*

diaphragm: a sheet of *muscle* that separates your chest from your lower body

diet: all the *food* that you eat

diffuse, diffusion: the spreading of *liquids* and *gases*, from where the concentration is high to where it is low, because its *particles* are moving about

digest, digestion: the breakdown of large, *insoluble food molecules* into small *soluble* ones which can be *absorbed*

digestive juice: juice made by a digestive *gland* that helps to *digest food*

digestive system: all the *organs* that are used to *digest* and *absorb food*

diode: an electrical *component* allowing the flow of *current* in one direction only

direct current (dc): electrical *current* in one direction only

discontinuous variation: differences in one feature that have only a few options and fit into one option only, e.g. eye colour, tongue rolling

disease, disorder: when some part of a plant or animal isn't working properly

disinfectant: strong chemical used to kill *microbes*

disperse, dispersal: 1. splitting *white light* into different colours by *refracting* it through a *prism*
2. the spreading of *fruits* or *seeds* away from the *parent plant*

dispersion: the separating of the colours in light, e.g. when light passes through a *prism*

displace, displacement: 1. the *volume* of *water* pushed aside by an object
2. when a more *reactive element* pushes a less *reactive element* out of one of its *compounds*

dissipation: when something is scattered or broken up and thus disappears

dissolve: when the *particles* of a *solid* completely mix with the *particles* of a *liquid* to make a clear *solution*

distance-time graph: *graph* which plots the distance something travels against the time it takes to travel; the slope of the *graph* represents *speed*

distil, distillation: evaporating a *liquid* and then *condensing* it again to get a *pure liquid*

distribution: the places where living things can be found in a *habitat*

diurnal: the word used to describe animals that are active in the day

DNA: the substance that *chromosomes* are made from; short for **d**eoxyribon**n**ucleic **a**cid

dominant: a *characteristic* which shows up whenever an *organism* has one or a pair of *genes* for it

drag: see *air resistance*

drug: a substance which can change the way your body works

ductile: bendy; able to be drawn out into a thin strand, e.g. wire

dynamo: used to *generate* electricity by *transferring kinetic energy* into *electrical energy*

E

eardrum: the membrane in your ear that picks up sound *vibrations* from the *air*

Earth: the *planet* on which we live

earthquake: shaking of the *Earth* caused by sudden rock movements

earth wire: green and yellow wire in a cable or plug

echo: *sound* which is *reflected* back from something *solid*

eclipse: when the *Moon* is in the *Earth's shadow*, or the *Earth* in the *Moon's shadow*

ecologist: a person who studies the *environment*

ecosystem: a *community* of animals and plants interacting with each other and with the physical *environment*

Ecstasy: a *stimulant* that can cause depression, mental illness and even death

effector: part of the body that receives *impulses* from the *brain*, e.g. *muscles*

efficiency: the fraction, or percentage, of the *energy* supplied that is *transferred* in the way that we want; a measure of how well an *energy converter* *transfers energy*

efficient: something that does not *waste* much *energy*

effort: the *force* put on something

egest, egestion: get rid of undigested *waste (faeces)* through the *anus*

egg cells, eggs: female sex *cells*; also called *ova*

egg tube: the tube that carries an *ova (egg cell)* from an *ovary* to the *uterus (womb)*; also called an *oviduct*

ejaculation: *semen* is pumped out of the *penis* into the top part of the *vagina* during sexual intercourse

elastic: any substance that will return to its original shape and size after being stretched or squashed

elastic limit: the working limit of a spring; the maximum extent to which a *solid* can be stretched without permanent alteration of size or shape

electrical energy: kind of *energy* carried by electricity

electrical force: see *static electricity*

electrode: a *conductor* through which electricity enters or leaves something

electrolysis: splitting up a chemical using electricity

electrolyte: a *compound* which *conducts* electricity when molten or in *solution*

electromagnet: a *magnet* made by passing an electric *current* through a coil of wire; it usually has an *iron* core

electron: 1. an atomic *particle* inside the *nucleus*
2. a tiny *particle* that flows around an *electrical circuit*

electroplate, electroplating: use of *electrolysis* to plate a *metal*

element: a substance which can't be split into anything simpler in a *chemical reaction*

eliminate: to get rid of

elliptical: oval-shaped

embryo: 1. a baby in the *uterus (womb)* before all its *organs* have started to *grow*
2. the tiny plant inside a *seed*

emit: to give out *energy*

emulsion: two *liquids* mixed together, one forming small blobs in the other

endangered: a *species* which is at risk of becoming *extinct*

endothermic: a *chemical reaction* that takes in *heat* from its surroundings

energy: something that is needed to make things happen

energy chain: an *energy* flow diagram to show *energy transfers*

energy resource: a *source* of *energy*, e.g. *coal* or solar power

environment: *conditions* around a living thing, made up of physical and living *factors*

environmental factors: things in an *environment* that can change something about an *organism*

environmental variation: differences between *organisms* caused by *environmental factors*

enzymes: *protein* substances made in *living cells* which *speed* up *chemical reactions* without being used up; *catalyst*

epicentre: the nearest point to the centre of an *earthquake*

epidemic: a sudden outbreak of an *infectious disease* which spreads rapidly and affects a large number of people, plants or animals in a particular area for a limited period of time

epithelium: *tissue* that forms linings and *skins* around an *organ* or *organism*

Equator: an imaginary line around the middle of the *Earth*

equilibrium: when something is *balanced*

erosion: the process where *wind, water* and *ice*, break down rocks into smaller pieces then carry them away

erupt, eruption: when *lava, ash* and *gases* are pushed out of a *volcano*

estimate: provide a rough idea about the numbers or size of something

ethanoic acid: *acid* in vinegar

ethanol: often known as '*alcohol*'; produced by *yeast cells* when they *ferment sugar*

evaluate, evaluation: when a judgement is made about the worth of something; how reliable it is

evaporate, evaporation: when a *liquid* changes into a *gas*

evidence: information that helps to prove an idea is correct

evolution: changing of a plant or animal *species* over a long period of time

excess: an amount greater than that which is needed

excrete, excretion: getting rid of the *waste* made in body *cells*

excretory system: the *organ system* which keeps the *blood* concentration steady and removes *waste products* from the *blood*

exhale, exhalation: *breathe* out

exoskeleton: thick outer covering found in *arthropods*

exothermic: a *chemical reaction* that gives out *heat* to its surroundings

expand, expansion: when things get bigger, usually because they are hotter

explain: make it easy to understand

external fertilisation: when *fertilisation* takes place outside the bodies of the *parents*

extinct, extinction: no longer existing

extrapolate: to *predict results* beyond the extent of the given values

F

factor: item or thing

faeces: undigested *waste* that passes out through the *anus*

fair test: an attempt to keep all the *variables constant* except the one that you are investigating

fat: part of *food* which we use for *energy*. Also helps to keep *heat* in

fatty acids: one of the building blocks of *fats*

fault: a crack in rocks along which there is movement

features: another word for *characteristics*

ferment, fermentation: the type of *anaerobic respiration* carried out by *yeast*, producing *carbon dioxide* and *ethanol*

ferns: plants which *reproduce* by making *spores* under their *leaves*

fertile: able to *reproduce*

fertilise, fertilisation: when a male *sex cell* joins with a female *sex cell* to start a new plant or animal

fertilised ovum: *cell* formed when a male and a female *sex cell (gamete)* join

fertiliser: you add this to *soil* to provide the *minerals* that plants need to *grow*

fibre: 1. a thin thread or filament

2. the indigestible *cellulose* in our *food*; it is also called *roughage*

filament: 1. the stalk of a *stamen* in a *flower*

2. thin piece of wire inside a light bulb that glows when electricity flows through it

filter: a thin piece of glass or plastic that only some colours of light can pass through and *absorbs* the rest

filter, filtering, filtration: separating a *liquid* from an undissolved *solid* by passing it through small holes, usually in paper; the *solid* doesn't pass through the holes and is left behind

filtrate: the *liquid* that passes through a *filter*

fish: *vertebrates* with scaly *scales* which live in *water*

fitness: a person's level of *fitness* depends on the four *S-factors*, *suppleness*, *strength*, *speed* and *stamina*

flagellum: tail on, for example, a bacterium. Two are flagellae

flatworms: *invertebrates* with thin flat bodies; also known as *platyhelminths*

float: when an object rests on the surface of a *liquid* without sinking

flower: part of a plant that contains the structures for *sexual reproduction*

flowering plants: plants which make *seeds* in *fruits*

foetus: a baby in the *uterus (womb)* whose *organs* are all growing; in humans after about 10 weeks

food: any nutritious substance that people or animals eat or drink or that plants *absorb* in order to maintain life and *growth*

food chain: a diagram showing what animals eat

food web: diagram that is made up of lots of *food chains* joined together to show what eats what in a *habitat*

force: a push or a pull

force meter: used to measure *force*. Also called a *Newton meter*

force multiplier: something that turns a small *force* into a larger one, e.g. a *lever*

formula: uses *symbols* to tell you how many *atoms* of each *element* are joined together to form a *compound* (or *molecule* of an *element*)

fossil fuels: *fuels* that were formed from the remains of animals or plants that died millions of years ago; they are burned to release *thermal energy*

fossils: remains of plants and animals from a long time ago

fractional distillation: a way of separating two *liquids* with different *boiling points*, e.g. *alcohol* and *water*

fracture: a broken or cracked *bone*

fraternal twins: see *non-identical twins*

freeze-thaw: type of *weathering* that happens when *water* gets into a crack in a rock and *freezes*. The *freezing water expands* and makes the crack bigger

freeze, freezing: a *liquid* turning into a *solid*

freezing point: the *temperature* at which a *liquid* turns into a *solid*

frequency: 1. the number of *vibrations* in a *second*; gives a sound its particular *pitch*; units are *hertz*

2. the number of *waves* each second

friction: a *force* that acts in the opposite direction to something that moves or is trying to move; *friction* can be between *solid* surfaces or when things move in *gases* or *liquids*
fruit: part of a *flowering plant* which contains the *seeds*
fuels: substances that are burned; stored *chemical energy* is *transferred* as *thermal energy*; see also *fossil fuels* and *nuclear fuels*
fulcrum: a point around which something turns. Also known as a *pivot*
function: role, job
fuse: 1. a piece of wire that *melts* if too much electricity flows through it
2. when two *sex cells* join together
fungi: 'plants' that do not make their own *food* but break down dead bodies of plants and animals and other *waste*; one is called a fungus
fungicide: a chemical that kills *fungi*

G

galaxy: millions of *stars* grouped together
gametes: another name for *sex cells*
gases: substances that spread out (*diffuse*) to fill all the space they can; they can be squeezed (*compressed*) into a smaller *volume*
gas exchange: taking useful *gases* into a body or a *living cell* and getting rid of *waste gases*
generalise: to form a general statement or rule from the *evidence* available
generate, generator: produces electricity when it is supplied with *kinetic energy*
generation: *offspring* of one set of *parents* or of one age group
genes, genetic material: these *control* the *characteristics* of plants and animals; they are passed on by *parents*
genetic engineering: technique that removes a particular *gene* from one *cell* and *transfers* it to another *cell*
genetic modification: adding *genes* to an *organism* which are not normally there or removing *genes*
genus: a *classification* group consisting of a number of similar *species*; the first name of the scientific name is the name of the *genus*
geostationary orbit: an *orbit* in which a *satellite* takes exactly 24 hours to circle the *Earth*, so it always stays over the same part of the *Earth*
geothermal energy: *energy* stored in hot rocks in the *Earth's crust*
germ: a *harmful microbe* that often causes *disease*
germinate, germination: begin to *grow*, for example a plant from the *embryo* in a *seed*
gestation period: length of time from *fertilisation* to birth; known as pregnancy in humans
gills: *organs* for *gas exchange* in some animals that live in *water*
glacier: a slowly moving river of ice formed by the accumulation and *compaction* of snow on mountains or near the *poles*.
gland: an *organ* that produces a *liquid*, for example digestive *glands* produce *digestive juices*
gliding joint: see *slightly moveable joint*
global warming: see *greenhouse effect*
glucose: a *carbohydrate* made of small, *soluble molecules*; a *sugar*
glycerol: one of the building blocks of *fats*
grain: a small piece of *mineral*
gram (g): unit used to measure *mass*. 1000g equal 1 *kilogram* (kg)
granite: a type of *igneous* rock with large *crystals*
graph: a diagram showing the *relationship* between two *variables*
gravitational potential energy: see *potential energy*
gravity: *force* of *attraction* between two objects because of their *mass*
greenhouse effect: *gases*, such as *carbon dioxide*, in the *air* that make the *Earth* warmer than it would otherwise be
greenhouse gases: *gases* thought to contribute to *global warming*, e.g. *carbon dioxide* and *methane*
grow, growth: to become bigger and more complicated
guard cells: *cells* which open and close the *stomata*
gullet: the tube that goes from the mouth to the *stomach*; another name for the *oesophagus*

H

habitat: the place where a plant or animal lives

haemoglobin: substance in *red blood cells* that carries *oxygen*

harmful: another word for *irritant*

hazard: something that might cause injury or harm

hazard label: one of a series of warning symbols used to indicate potential dangers in handling substances

heart: an *organ* that pumps *blood*

heart attack: when the *heart* stops pumping

heart disease: *disease* caused by narrowing of the *arteries* carrying the *blood* to the *muscles* of the *heart*, so the *heart* does not receive enough *oxygen*

heart rate: see *pulse rate*

heat energy: see *thermal energy*

hemisphere the two halves of a sphere, e.g. the *Earth*

herbicide: weed killer

herbivore: an animal that only eats plants

hereditary: when something is passed on *genetically* from one *generation* to the next

heroin: a very dangerous suppressant *drug*, causes vomiting and severe headaches

hertz (Hz): the number of *vibrations* each second; the unit of *frequency*

hibernate, hibernation: go into a dormant state through the winter

hinge joint: a skeletal *joint* which allows movement in one direction only

HIV: a *virus* that causes *AIDS*. Stands for **human immunodeficiency virus**

hormones: chemicals secreted in small amounts which coordinate the *growth* and activities of living things

host: a living thing that a *parasite* lives on or feeds off

humidity: the amount of *water vapour* in the *air*

humus: rotting *organisms*, especially *leaves*, which form part of the *soil*

hybrid: cross between two varieties or two *species*

hydraulic: a system which works by *transmitting pressure* through pipes containing a *liquid*

hydrocarbon: a chemical *compound* containing only *hydrogen* and *carbon atoms*

hydrochloric acid: a common *acid* that is also found in your *stomach*

hydroelectricity: electricity produced by *transferring the potential energy* of *water* trapped behind a, dam

hydrogen: 1. a *gas* that burns with a squeaky pop

2. a *gas* which is given off when an *acid* reacts with a *metal*

3. a *non-metal element*; it is a *gas* that burns to make *water*

hydrogen carbonate indicator: an *indicator* that can be used to show how much *carbon dioxide* is present

hydrous: contains *water*

hygiene: *conditions* or practices conducive to maintaining health and preventing *disease*, especially through cleanliness

hypothesis: a statement or assumption made without experimental *evidence* that can be proved or disproved by reference to *evidence* or facts

I

identical twins: *twins* that develop from one *fertile egg* which then splits into two

igneous: rocks that are formed when molten *magma* from inside the *Earth* cools down

image: a picture which forms in a *mirror* or on a screen, or is made by *lenses*

immoveable: unable to move

immune: able to resist an *infectious disease* because you have had the *disease* or because you have been immunised against it

immunisation: making people *immune* to *diseases*

impermeable: will not let a *liquid* pass through

implantation: the settling of an *embryo* into the lining of the *uterus*

impulse: electrical signal carried by a *nerve cell*

impure: contains more than one substance
incident ray: light *ray* hitting a *mirror*
incisor: flat-edged biting tooth at the front of the mouth
incubate: keep warm so that something *grows* and develops
independent variable: a *variable* whose value does not depend on that of another
indicator: a substance that can change colour and tell you if a *solution* is an *acid* or an *alkali*
infect, infection: when a *microbe* gets into your body you are *infected* by it
infectious: a *disease* that can be spread from person to person or from animal to person is *infectious*
infertile: not able to *reproduce*
infrared: a type of *radiation* in the electromagnetic spectrum
ingest, ingestion: taking in *food* through the mouth
inhale, inhalation: *breathe* in
inherit, inheritance: passing on in the *genes* from *parents* to *offspring*
inherited variation: differences between *organisms* that are passed to the *organisms* from their *parents* through *reproduction*
inoculation: the introduction of *microbes* into a body in order to give that body immunity to *disease*
insecticide: a chemical that kills *insects*
insects: *arthropods* with 3 pairs of legs and 1 or 2 pairs of wings, e.g. fly
insoluble: how we describe a substance that will not *dissolve*
insulator: **1. electrical** a substance that will not let an electric *current* pass through it
2. thermal a substance that will not let *thermal energy* pass through it
insulin: a *hormone* produced by the *pancreas* that lowers the level of *glucose* in the *blood*
intensity: the *strength* or amount of something, e.g. light
interbreed: *breed* with each other
interdependence: the way in which *organisms* depend on each other to remain alive, *grow* and *reproduce*
internal fertilisation: when *fertilisation* takes place inside the bodies of the *parents*
interpret: to *explain* the meaning of something and to come to a *conclusion*
intrusion: a body of *magma* which cools below the *Earth's* surface
invertebrates: animals that do not have a bony skeleton inside
ion: electrically *charged atom* or group of *atoms*
iron: 1. a *metal element* that is attracted by a *magnet*; *steel* is made mainly from *iron*
 2. a *mineral nutrient* that is needed by living things
iron filings: tiny pieces of *iron*
irreversible: cannot be changed back again; permanent
irritant: something that irritates the *skin* and eyes

J

jellyfish: *invertebrates* with tentacles and stinging *cells*; one group of *coelenterates*
joints: the places where *bones* meet
Joule (J): the unit of *energy*

K

keys: a table or diagram used to identify living things
kidneys: *organs* which remove *urea* from your *blood* and *excrete* it in *urine*
kilogram(kg): 1000 *grams*
kilojoule (kJ): 1000 *Joules*
kilometre (km): 1000 *metres*
kilowatt (kW): 1000 *Watts*
kilowatt-hour (kWh): the amount of *energy* used by a 1kW appliance in 1 hour. It is equal to 3600 kJ
kinetic energy: the *energy* that an object has because it is moving

kinetic theory: an understanding of the number, position and movement of *particles* or *atoms* in the three *states of matter*

kingdoms: largest groups that living things are sorted into, animal *kingdom* and plant *kingdom*

kwashiorkor: a *deficiency disease* caused by lack of *protein* in the *diet*

L

labour: time when a baby is about to be born

lactic acid: chemical produced in *muscle cells* during *anaerobic respiration*.

large intestine: the wide part of the intestine between the *small intestine* and the *anus*

larva: young stage of an *insect* which becomes a *pupa* before it changes into an adult

larynx: voice box situated in the neck, containing the vocal cords

laser: something that produces a narrow intense beam of light

laterally inverted: flipped sideways, when the left becomes the right and the right becomes the left

lava: molten rock that flows from *volcanoes*

leach: wash chemicals out of the *soil*

leaf: plant *organ* used to make *food* by *photosynthesis*. Plural leaves

lens: a *transparent material*, often glass, with one or both sides curved for concentrating or dispersing light rays

lever: a simple *machine* to increase the size of a *force*

life cycle: the stages in the life of an animal or plant

life processes: what living things can do; for example *move, respire, sense, grow, reproduce, feed* and get rid of *waste*

ligament: fibres which hold *bones* together at *joints*

light energy: kind of *energy* given out by light bulbs, candles

light source: something that gives out light

light year: the distance that light travels in one *year*

lightning: a brief natural high-*voltage* electrical discharge between a cloud and the ground or within a cloud, accompanied by a bright flash and often *thunder*

lime: *calcium oxide*, made by *heating limestone* or *chalk*

limestone: a *sedimentary* rock, made from *calcium carbonate*, which is formed from the shells of dead sea animals

lime-water: a clear *solution* of *calcium hydroxide* in *water*; it is turned cloudy when *carbon dioxide* passes through it

limiting factor: something that stops a *population* growing

line graph: a *graph* where the points are joined by a line. The line may be straight or curved. There may be *anomalous results* that do not fit on the line

line of best fit: line that is the best fit for points on a *graph*

lines of magnetic force: these tell you which way a *magnetic compass* will point in a *magnetic field*

lipase: *enzyme* which *digests fat*

liquid: substances that have a fixed *volume* but take the shape of their container

litmus: an *indicator* that is red in *acids* and blue in *alkalis*

liver: large *organ* in the lower part of your body, just under your *diaphragm*

live wire: the brown wire in a cable or plug

liverworts: grouped with *mosses*, plants which make *spores* in *spore* capsules

load: the *weight* or *force* of something

loam: a good *soil* containing both clay and sand *particles*

loud: a *loud* sound is produced by *vibrations* with a large *amplitude*

loudspeaker: a paper cone moved by a *magnet* and an *electromagnet*. It converts electrical signals into *sound*

lubricant, lubrication: a substance used to reduce *friction*

luminous: gives out light

lunar eclipse: when the *Moon* moves into the *shadow* of the *Earth*

lunar month: 28 *days* – the time it takes the *Moon* to *orbit* around the *Earth* once

lungs: *organs* for *gas exchange* between your *blood* and the *air*

M

- machine:** something that *transfers energy* from one form into another
- magenta:** purplish *secondary colour* made by mixing red and blue light
- magma:** molten rock beneath the *Earth's crust*
- magnesium:** a *reactive metal element* that burns brightly
- magnet:** something that can *attract magnetic materials*
- magnetic:** a *material* that is attracted to a *magnet*
- magnetic compass:** a *magnet* that is free to *pivot*; it comes to rest with one end (*pole*) pointing north and the other *pole* pointing south
- magnetic field:** area around a *magnet* where it *attracts* or *repels*
- magnetic north:** the direction to which the *magnetic* needle of a *compass* points. This is different to the north direction shown on a map
- magnetism:** a *force* that *attracts* objects made out of *cobalt, iron, nickel* or *steel*
- magnification:** the number of times bigger a drawing or *image* is *compared* to real life
- make and break switch:** *switch* in an electric *bell* that opens and closes because of an *electromagnet* breaking the *circuit* every time it is switched on
- malleable:** can be beaten into thin sheets
- malnutrition:** *diet* that has too little or too much of a particular *food*
- mammals:** *vertebrates* with hair or fur, the young feed on milk
- mammary glands:** *glands* contained in the breast of a female which produce milk after childbirth
- mantle:** a layer of *material* in the *Earth*, between the *crust* and the *core*, made up mainly of molten rock (*magma*)
- marasmus:** illness that is caused by a lack of *protein*
- marble:** a *metamorphic* rock made from *limestone*
- marijuana:** a *depressant* which can cause memory loss
- mass:** the amount of stuff in an object; it is measured in *grams* (g) or *kilograms* (kg). *Mass* does not change if you go into space or to another *planet*
- material:** a substance out of which something is made
- mean:** *average*
- medicine:** a *drug* that helps the body to ease the *symptoms* of a *disease* or cure the *disease*
- melt, melting:** changing a *solid* into a *liquid* by *heating* it
- melting point:** the *temperature* at which a *solid* melts
- menopause:** when the *ovaries* in a female stop releasing *eggs*
- menstrual cycle:** the monthly cycle of changes in the human female *reproductive system*
- menstruation:** when the lining of the *uterus* and a little *blood* pass out of the *vagina* as part of the *menstrual cycle*
- mercury:** the only *metal element* that is a *liquid* at ordinary room *temperature*
- metals:** substances that *conduct* electricity; they are usually shiny and often hard
- metamorphic:** rocks that are made when other rocks are changed (but not *melted*) by *heat* and *pressure*
- metamorphosis:** sudden change in the shape of the body, taking place in the *life cycle* of *insects* and *amphibians*
- methane:** a *hydrocarbon* also produced in the *digestive system*
- metre:** unit of length. 1000m equal 1 *kilometre* (km).
- microbes:** microscopic living things; also called *micro-organisms*
- microhabitat:** small areas of a *habitat* with certain *conditions*
- micro-organisms:** another word for *microbes*
- microscope:** an instrument, used to magnify very small things too small to see with the naked eye, consisting of a system of *lenses*
- migrate, migration:** what animals do when they move to different places in different *seasons*
- Milky Way:** the *galaxy* that our *Solar System* is in
- milligram (mg):** 1000mg equal 1 *gram*
- millimetre (mm):** 10mm equal 1 *centimetre*
- mineral salts:** chemicals found in the *soil* which plants need for good *growth*. Also chemicals found in *food* and needed in small quantities by animals for good health
- minerals:** chemicals that rocks are made from
- mirror:** a surface that *reflects* each narrow beam (*ray*) of light in one direction
- mixture:** different substances that are mixed but not joined together
- model:** a scientific way of thinking about how things happen

molar: grinding tooth at the back of the mouth
molecule: the smallest part of a chemical *compound*
mollusc: *invertebrates* with some hard parts such as a shell, e.g. snail
moment: the *turning effect* of a *force*
monera: the *classification* group which contains *bacteria*
Moon: the *natural satellite* of the *Earth*
mosses: grouped with *liverworts*, plants which make *spores* in *spore* capsules
mould: small *fungus* which *grows* as a mass of threads
moveable: able to move
movement energy: see *kinetic energy*
mucus: the sticky fluid made by some *cells*, for example in the air tubes of the *lungs* to trap *microbes* and dirt
mudstone: *sedimentary* rock made from mud
multicellular: *organisms* made of many *cells*
muscle: 1. *tissue* - *tissue* that can *contract* or shorten to move parts of the body
 2. *organ* - made of *muscle* and other *tissue*, e.g. *biceps muscle*
mutation: a sudden change in a *gene* or *chromosome*
myriapod: *arthropod* with many legs, e.g. millipede

N

National Grid: system of overhead and underground cables that carry electricity around the country
native metals: these are found in the *Earth's crust* as the *metals* themselves rather than as *compounds*
natural defences: your body's way of trying to keep *microbes* out or killing them if they get inside you
natural gas: *fossil fuel* formed from the remains of dead plants and animals that lived in the sea
natural satellite: something orbiting a *planet* that is not man-made
navel: scar left by the *umbilical cord*, often called the 'belly button'
nectar: *sugary liquid* which *flowers* make in their *nectaries* to *attract insects*
nectary: part of a *flower* which produces *nectar* to *attract insects*. Plural is nectaries
negative: one of the two types of electrical *charge*; the other type is called *positive*
nerve: carries messages around the body
nerve cell: *cell* that carries messages around the body
nervous system: the *organ system* that coordinates the activities of the body
neutral: what we call a *solution* that is neither *acid* nor *alkali*. Has a *pH* of 7
neutralise, neutralisation: a reaction between an *acid* and an *alkali* that produced a *neutral solution* of a *salt* (plus more *water*)
neutral wire: the blue wire in a cable or plug
neutron: *particle* inside the *nucleus* of an *atom*
Newton (N): the unit of *force*
Newton meter: used to measure *force*. Also called a *force meter*
Newton metre (Nm): unit used to measure the *moment* of a *force*
niche: see *microhabitat*
nickel: a *metal* that is a *magnetic material*
nicotine: a poisonous *drug* in tobacco to which people can become *addicted*
nitrates: *compounds* containing *nitrogen* and *oxygen*; the most important *mineral salts* for plants
nitrogen: 1. a *gas* that puts out a lighted splint; it is fairly *unreactive* but will react with the *oxygen* in the *air* at high *temperatures*
 2. the main *gas* in *air*
nitrogen cycle: the way in which *nitrogen* moves around through different parts of the *environment*
nitrogen oxides: 1. *acidic gases* produced when *nitrogen* reacts with *oxygen* at high *temperatures*
 2. formed from *nitrogen* and *oxygen* by *lightning*
nocturnal: the word used to describe animals that are active at night
noise: unwanted sound
non-biodegradable: substance that will not be broken down by *microbes*
non-conductor: see *insulator*
non-identical twins: *twins* which develop from two different *fertile eggs*. Also called *fraternal twins*

non-metals: what we call *elements* that aren't *metals*

non-renewable: *energy sources*, such as *fossil fuels*, that are not replaced and will eventually be used up

normal: a line drawn at right angles (90°) to a boundary, e.g. a *mirror*

normal distribution: the way in which the *data* of a *continuous variation* are distributed. It has a *bell shape*

northern hemisphere: the half of the *Earth* with the *North Pole* in it. The UK is in the *northern hemisphere*

north pole (north-seeking pole): the end of a *magnet* that points north when the *magnet* is free to move

nuclear energy: *energy* stored inside the *particles* that things are made from

nuclear fuel: a *fuel*, such as *uranium*, that is used in nuclear power stations

nuclear power: making electricity by using *nuclear energy* stored inside *uranium*

nucleus: 1. the centre part of an *atom*

2. the part of a *living cell* that *controls* what happens in the *cell*

nutrients: the *foods* needed by animals or the *minerals* needed by plants in order to remain healthy

nutrition: obtaining the *materials* needed for *energy* and for making new *cells*

nymph: young *insect* which changes straight into an adult

O

obese, obesity: someone who is very heavy for their size

observation: what you can see happening during an experiment

obsidian: a volcanic glass formed by the rapid cooling of *granite magma*

oesophagus: another word for *gullet*

offspring: new living things produced by *reproduction*

oil: *fossil fuel* formed from the remains of dead animals and plants that lived in the sea

omnivore: an animal that eats both plants and other animals

oolite: a type of *limestone* formed when *water evaporates* and leaves *calcium carbonate* behind

opaque: something that you cannot see through; does not let light through

opinion: a belief that seems likely but is not based upon proof

optimum: best, most ideal

orbit: the path of a *satellite* as it moves round a *planet*, or of a *planet* (or *comet*) as it moves round the *Sun*

ores: *compounds of metal* and *non-metal elements* that are found in the *Earth's crust*

organ: a structure in a plant or animal made of several different *tissues*, for example *ovary*, *heart* or *lungs*

organ system: a group of *organs* which work together to do a particular job

organism: a living thing

oscilloscope: instrument which shows a picture of a *wave* on a screen

ova: another word for *egg cells*; one is called an ovum

ovary: 1. animals - female reproductive *organ* where *egg cells (ova)* are made; two are called an ovaries

2. plants - female reproductive *organ* where *egg cells (ovules)* are made

oviduct: *egg tube* where *fertilisation* occurs

ovulation: the release of an *egg cell* from an *ovary* in a female

ovules: these contain the female *gametes (ova)* of a *flowering plant*

oxidation: *oxygen* joining with other *elements* to make *compounds* called *oxides*; for example, *burning* and *rusting*

oxide: *compounds of oxygen* and other *elements*

oxidised: when a substance reacts with *oxygen*

oxygen: 1. a *gas* which will make a glowing splint relight or a lighted splint burn brighter

2. one of the two main *gases* in the *air*; it is needed for things to burn and for *respiration*

oxygen debt: amount of *oxygen* that is needed to break down the *lactic acid* produced by *anaerobic respiration*

ozone: a *gas* that is a form of *oxygen*, made from three *oxygen atoms* bonded together.

ozone layer: layer in the upper *atmosphere* that contains *ozone gas*, which protects us from the *Sun's ultraviolet radiation*

P

- palisade cells:** upper layer of *cells* in the middle of a *leaf*; contain many *chloroplasts* where most of the *photosynthesis* in a *leaf* happens
- pancreas:** an *organ* which makes a *digestive juice* and *hormones*
- parallel:** a way of connecting more than one bulb etc. to a *cell* or a power supply so that a *current* flows through each of them separately
- parasite:** a living thing that lives in or on a *host* and feeds off it
- parent:** a living thing that has had *offspring*
- partial eclipse:** a *solar eclipse* when the *Moon* only covers part of the *Sun*
- particles:** the very small bits that everything is made of
- Pascal (Pa):** unit for measuring *pressure*. $1\text{Pa} = 1\text{N}/\text{m}^2$
- pasteurisation:** milk is *heated* up to 70°C for about 15 seconds which is enough to kill the most *harmful bacteria* in it
- pathogen:** a *microbe* that cause *disease*. See also *antigens*
- pattern:** when *results* show a trend
- pectin:** a substance found in *fruit* that helps hold *cell walls* together
- penicillin:** an *antibiotic* that is produced by the *fungus* *Penicillium*
- penis:** an *organ* of the human male *reproductive system*; it is used to place *sperm* inside a woman's *vagina*
- penumbra:** area of partial *shadow* with some light
- period:** loss of the lining of the *uterus* which happens about once a month if an *ovum* is not *fertilised*
- periodic table:** a table that shows all the chemical *elements* and their *symbols*
- periscope:** this is used to see over the top of things
- permanent magnet:** *magnet* that keeps its *magnetism*; it does not depend on electricity
- permeable:** will let a *liquid* pass through
- pesticide:** a chemical that *kills pests*
- pests:** animals that are a nuisance to us, such as those that eat our plants
- petals:** parts between the *sepals* and *stamens* of a *flower*; often coloured to *attract insects*
- pH:** a scale of numbers that tells you how strong an *acid* or *alkali* is
- phases of the Moon:** the different shapes that the *Moon* seems to have at different times.
- phloem:** a *tissue* that carries *dissolved sugars* in plants
- phloem tube:** tube made from a chain of living *cells* that carry *sugar* around a plant
- phlogiston:** a substance that was thought to be part of most *materials*. *Phlogiston* was thought to be given off when things burned
- photosynthesis:** the process in which plants use *light energy* to make *glucose* from *carbon dioxide* and *water*. The *word equation* for this process is:
$$\text{Carbon dioxide} + \text{Water} \rightarrow \text{Glucose} + \text{Oxygen} + (\text{Energy})$$
- phylum:** a major *classification* group
- physical change:** a change such as *melting* or *dissolving* that doesn't produce new substances; it is usually easy to reverse
- pinhole camera:** a simple camera that forms an *image* when light travels through a tiny hole in the front
- pitch:** how high or low a note sounds; a squeak has a higher *pitch* than a growl; it is produced by *vibrations* with a higher *frequency*
- pitfall trap:** sampling method used to collect small animals that live on the ground
- pivot:** the point around which something turns, or tries to turn
- placenta:** the *organ* through which a *foetus* gets *food* and *oxygen* and gets rid of *waste*
- plane mirror:** a smooth, flat *mirror*
- planet:** very large objects, including the *Earth*, that move in *orbits* around the *Sun*
- plankton:** microscopic aquatic plants and animals
- plaque:** on *teeth* it is the sticky coating containing the *bacteria* which cause decay
- plasma:** *liquid* part of the *blood*
- plate:** 1. a dish on which *bacteria* are grown
2. the *Earth's crust* is made of a series of tectonic *plates*
- platyhelminths:** *invertebrates* with thin flat bodies; also known as *flatworms*
- Plimsoll Line:** line marked on the side of a ship showing the level above which the *water* should not rise
- pneumatic:** tyres which are filled with *air*

polar orbit: an *orbit* where a *satellite* passes over the North and South *poles*. It will pass over all parts of the *Earth* during several *orbits*

poles: 1. either of the two locations (North *Pole* or South *Pole*) on the *Earth* which are the ends of the *axis* of rotation
2. the ends of a *magnet* that *attract*, or *repel*, other *magnets*; if the *magnet* is free to move one *pole* points north and the other *pole* points south

pollen: contains the male *sex cell* of a *flowering plant*

pollen sacs: the parts on an *anther* where *pollen* is made

pollen tube: the tube which *grows* from a *pollen grain* through the *stigma* and *style* to the *ovary*

pollinate, pollination: the *transfer* of *pollen* from an *anther* of a *flower* to a *stigma* of a *flower* of the same *species*

pollute: contaminate the *environment* with undesirable *materials* or *energy*

pollution: *harmful* chemicals that humans allow into the *air*, *soil* or *water* around them (the *environment*)

polymer: a very long *molecule*, made from a series of smaller *molecules* joined together

pond dipping: sampling method used to collect *organisms* from ponds

pooter: a small container connected to two tubes, used to catch tiny animals

population: all the plants or animals of one *species* which live in a particular place

porous: 1. a *material* that has tiny holes or pores in it, allowing *air* or *water* to pass through
2. rocks that can soak up *water*, e.g. *sandstone*

positive: one of the two types of electrical *charge*; the other type is called *negative*

potassium: a *metal element* that has *properties* and *compounds* similar to those of *sodium*

potential energy: the *energy* that is stored in something because it is high up (*gravitational*) or because it is bent or stretched (*elastic*)

power: *energy* used per second. Measured in *Watts* (W)

power rating: the number of *Joules* of *energy* an appliance uses every second

precipitate: an *insoluble solid* that settles to the bottom of a *solution*

precipitation: to form an *insoluble solid*

predator: an animal that kills and eats other animals (*its prey*)

predict, prediction: what you think will happen in an experiment using scientific knowledge to justify the statement

pregnant: when a female has an *embryo* growing inside her *uterus*

preservative: a chemical that will slow down the *growth* of *microbes*

pressure: how much *force* there is on a certain area; the *force* is caused by *particles* hitting that area

prey: an animal that is killed and eaten by another animal (*its predator*)

primary: first

primary colours: the three main colours which make up *white light*, red, green, blue

principle of moments: the *anticlockwise* turning *force* will be the same as the *clockwise* turning *force* when an object is *balanced*

prism: a triangular block of clear glass or plastic

producer: an *organism* that is able to make its own *food*. Green plants are *producers*

products: the new substances made in a *chemical reaction*

property: what a *material* is like, for example whether it *conducts* electricity or whether it burns. More than one are called properties

protease: *enzyme* which *digests* *proteins*

protein: the part of *food* needed for *growth* and repair

proton: *particle* inside the *nucleus* of an *atom*

puberty: when boys and girls first start to release *sex cells* so that they are able to *reproduce*

pulse: the stretching of an *artery* each time your *heart* beats

pulse rate: the number of times your *heart* beats per minute

pumice: an aerated, frothy *lava*

pupa: stage in the *insect life cycle* between *larva* and adult

pupil: *transparent* part in the centre of the eye where light passes through

pure: a substance that does not have anything else in it

pyramid of biomass: pyramid-shaped diagram showing the decrease in the *mass* of *organisms* as you go up a *food chain*

pyramid of numbers: pyramid-shaped diagram showing the decrease in the number of *organisms* as you go up a *food chain*

Q

quadrat: a one *metre* square frame, thrown randomly onto the ground, which is used to *sample* plants in an area

quadruplets: four *offspring* born at the same time

qualitative: a study that involves looking only at changes that do not involve quantities

quantitative: a study that involves looking at changes in quantities

quartzite: a *metamorphic* rock formed from *sandstone*

R

radiation: 1. dangerous *particles* and *energy* given off by *uranium* and other *radioactive materials*
2. the way *heat* travels through *gases* and a *vacuum*

radioactive: describes *atoms* breaking up and giving out *radiation*

rainbow: a *spectrum* of the colours in sunlight made by raindrops

range: the difference between the highest and the lowest reading

rate: how fast or slow

raw materials: substances used to make other substances from

ray: a narrow beam of light

ray diagram: a diagram showing the paths of light *rays*

RDA: Recommended Daily Allowance (of *vitamins* and *minerals*)

reactants: the substances we start with in a *chemical reaction*

reaction time: 1. the time it takes for a person to react to a *stimulus*

2. the time taken for a *chemical reaction* to complete

reactive: a chemical that reacts easily

reactivity series: a list of *metals* in order of how quickly they react with *oxygen*, *water* or *acids*

recessive: a *characteristic* or *gene* which is hidden whenever a *dominant gene* is present

receptors: *cells* that detect *stimuli*

recovery time: the time it takes for your *pulse* to go back to normal after exercise

recreational drug: a *drug* that is legal. *Caffeine*, *nicotine* and *alcohol* are examples

rectum: the last part of your *large intestine*

recycle: to use *materials* over and over again

red blood cells: *cells* in the *blood* that carry *oxygen*

reduce, reduction: to remove *oxygen* from a *compound* in a *chemical reaction*

reed switch: *switch* made from thin pieces of *metal*, which closes when it is in a *magnetic field*

reflect, reflection: light, or sound, bouncing off whatever it strikes

reflected ray: light *ray* bouncing off a *mirror*

refract, refraction: light bending when it passes from one *transparent* substance into another

relationship: a link between two things shown on a *graph*

relax: in the case of a *muscle*, become longer and thinner; the opposite of *contract*

relay: a *switch* that works using an *electromagnet*

reliability: when an experiment is *repeated* several times and the *results* are very similar

renewable: an *energy source* that is constantly being replaced and won't get used up

repeat: to do something more than once

repel, repulsion: when things push each other away

replicate, replication: *viruses* cannot *reproduce* on their own. They use the *cell* which they have *infected* to help them make new copies of the *virus*. We say that the *virus particles replicate*

reproduce, reproduction: when living things produce young of the same kind as themselves

reproductive system: the *organs* in plants or animals that are used for *reproduction*

reptiles: *vertebrates* with scaly *skins* and *eggs* with tough shells, e.g. snake

reservoir: man-made lake

residue: a *solid* which stays behind, e.g. the bits of *solid* that are trapped by a *filter*

resistance: 1. a way of saying how difficult it is for electricity to flow through something; measured in ohms (Ω)

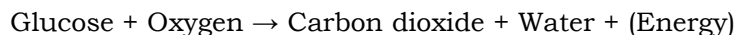
2. the *frictional force* opposing movement of an object through a *liquid* or *gas*

resistant: 1. *bacteria* that are not affected by an *antibiotic* are said to be *resistant* to it

2. something that is not affected by a *disease* is said to be *resistant* to it

resistor: a *component* that makes it difficult for electricity to flow – *resistors* are used to *control* the size of a *current* in a *circuit*

respire, respiration: the breakdown of *food*, using *oxygen*, to release *energy* in living *cells*; the reaction releases *energy* and produces *carbon dioxide* and *water* as *waste products*. The *word equation* for this process is:



respiratory system: system which gets *oxygen* into the *blood* and takes *carbon dioxide* out of the body

response: an *organism's* reaction to a *stimulus*

results: the observed outcome

retina: layer at the back of the eye which changes *light energy* into *electrical energy*

reversible: can be changed back again; temporary

rheostat: a *variable resistor*

rickets a *deficiency disease* caused by a lack of *vitamin D*. *Symptoms* include weak *bones* and *teeth*

rock cycle: the way that the *material* rocks are made from is constantly moved around and changed

rock salt: *impure* form of *sodium chloride* found as a natural rock

root hairs: plant roots *absorb* *water* and *minerals* mainly through these

roughage: another word for *fibre*

rust: substance formed when *iron* or *steel* reacts with *oxygen* and *water*; chemically called *iron oxide*

rusting: the *corrosion* of *iron* (or *steel*) as it joins with *oxygen* in damp *air* to form *iron oxide*

S

saliva: a *digestive juice* made by the *salivary glands*

salivary glands: *glands* in the mouth that produce *saliva*

salt: a *compound* produced when an *acid* reacts with a *metal* or with an *alkali*; common salt, *sodium chloride* is just one example

sample: a small part of something. You use your *results* from this to suggest what the rest is like

sample size: the number of objects chosen for an investigation

sandstone: a *sedimentary* rock formed from *grains* of sand *cemented* together

sandy soil: a *soil* that contains larger *particles* than *clay soils*; *water* passes through it easily

saprophyte: a plant, *fungus*, or *micro-organism* that lives on decaying matter

satellite: an object that *orbits* a *planet*; it may be natural like the *Moon* or artificial like a weather or communications *satellite*

saturated: a *solution* that contains as much *dissolved solid* as it possibly can

scab: a dry *blood clot* on the surface of the *skin*

scatter when light *rays* bounce off something in all directions

scatter graph: a *graph* that shows the *relationship* between two quantities, e.g. height and *weight*, without joining the points in a line

scavenger: *carnivore* that eats animals but does not kill them itself. Animals can have died or been killed by other animals

scree: loose rocks that fall down a hillside

scrotum: bag of *skin* containing the *testes* in males

scurvy: a *disorder* caused by lack of *vitamin C* in the *diet*

seasonal changes: changes in the physical *factors* of the *environment* which happen during the course of the *year*

seasons: the different parts of each *year* (spring, summer, autumn, winter)

secondary colour: colour made when two *primary colours* are mixed

secondary data: *data* obtained from another *source*, e.g. books, internet

sediment: 1. *insoluble solid* that settles to the bottom in a *liquid* or *solution*

2. rock *grains* and fragments dropped on the bottom of a river, lake or sea

sedimentary: rocks made from small bits which settle in layers on the bottoms of lakes or seas

seeds: contain the *embryo* *flowering plants* and their *food* stores; new plants *grow* from them

segment: some animals have bodies that are divided into obvious sections called *segments*

selective breeding: breeding only from the plants or animals which have the *characteristics* that we want

self pollination: *transfer* of *pollen* from an *anther* to the *stigma* of the same plant

semen: a *mixture* of *sperm cells* and seminal fluid released by males during sexual intercourse

sense, sensitive: we say this about living things when they can detect changes in their surroundings and react to them

sepals: parts which cover and protect a *flower* in bud

series: a way of connecting two or more bulbs etc. to a *cell* or power supply so that a *current flows* through each of them in turn

sex cells: special *cells* from males and females that are used for *reproduction*; also called *gametes*

sex hormones: chemicals released in our bodies that *control* the *menstrual cycle* and *puberty*

sex-linked: a *gene* which is more likely to show its *characteristic* in males than females because it is on the X *chromosome*

sexual reproduction: *reproduction* involving male and female *sex cells*

S-factors: how fit a person is depends upon the four *S-factors*: *suppleness, strength, speed* and *stamina*

shadow: the dark area formed behind an object when light can't pass through it

shale: a *sedimentary* rock

sickle cell anaemia: an *inherited disorder* of the red *blood cells*

side-effect: *harmful* or unpleasant effects caused by *drugs*

signal generator: electronic instrument that can be used to make *wave* forms at a chosen *frequency* and *amplitude*

skeletal system: the *organ system* giving shape, support, and allowing movement

skeleton: an internal or external framework of *bone, cartilage*, or other rigid material supporting or containing the body of an animal or plant

skin: *organ* used for protecting and feeling

slaked lime: the chemical *compound, calcium hydroxide*

slate: a *metamorphic* rock made from very small *crystals*; formed from *mudstone*

slide: a rectangular piece of glass on which the object is placed for study under a *microscope*

sliding friction: the *friction force* between two *solid* surfaces which slide, or try to slide, across each other

sliding joint: see *slightly moveable joint*

slightly moveable joint: a skeletal *joint* in which the *bones* slide against each other, often resulting in a large amount of body movement

small intestine: narrow part of intestine between *stomach* and *large intestine*; *digestion* finishes and *absorption* takes place here

smelt, smelting: the process of getting a *metal* from its *ore*

smog: a very thick fog produced when *water* droplets form around things like smoke *particles*

sodium: a *metal element* that is soft and very *reactive*

sodium chloride: common *salt*; a *compound* of *sodium* and *chlorine*

sodium hydroxide: a *compound* that *dissolves* in *water* to make an *alkali*; commonly known as caustic soda

soil: a *mixture* of rock fragments, *humus, air, water* and *dissolved minerals*

solar cells: these produce electricity when *energy* is *transferred* to them by light

solar eclipse: when the *Moon* is between the *Sun* and the *Earth*, and casts a *shadow* on part of the *Earth*

solar energy: the *energy* that reaches *Earth* by the *Sun's* rays

Solar System: the *Sun* and all of the *planets* that *orbit* the *Sun*

solenoid: a coil of wire

solids: substances that stay a definite shape

solubility: the ability for something to *dissolve*; the amount of *solid* that *dissolves* in 100g of *solvent*

soluble: able to *dissolve*

solute: how we describe a *solid* that *dissolves* in a *liquid*

solution: the clear *mixture* you get when a *solute* *dissolves* in a *solvent*

solvent: a *liquid* in which other substances will *dissolve*; some *solvents* are *drugs*

solvent abuse: sniffing *solvents* used in glue and other things

sonar: a *machine* for finding the depth of the sea or for finding *fish* by sending sound *waves* and listening for the *echoes*

sound barrier: the *speed* of sound; people used to think that it would be impossible to travel faster than the *speed* of sound

sound energy: *energy* made by anything that is making a *noise*

source: an object which creates something

south pole (south-seeking pole): the end of a *magnet* that points south when the *magnet* is free to move

space probe: an unmanned spacecraft that has cameras and other equipment to find out about other *planets*

space station: a man-made *satellite* orbiting around the *Earth*, big enough for several astronauts to live in for months or *years*

species: we say that plants or animals which can *interbreed* (*breed* with each other) belong to the same *species*

spectrum: the coloured bands produced by splitting up (*dispersing*) *white light*, for example by *refraction* through a *prism*

speed: the distance an object moves in a certain time; how fast something is moving

sperm: male *sex cell* or *gamete*

sperm duct: tube that carries *sperm* from the *testes* to the *urethra*

spores: tiny reproductive *cell* in some plants e.g. *mosses*, *ferns* and *fungi*

sprain: when *ligaments* at a *joint* are torn

spreadsheet: computer software system used to record information in table form with the capability of *transferring* the *data* into pictorial form, e.g. a *graph*

stain: dye used to colour parts of a *cell* to make them easier to see

stamens: male parts of a *flower* made up of an *anther* and a *filament*

stamina: how long a person can keep doing something for

starch: a *carbohydrate* with large *insoluble molecules*

stars: distant 'suns' that give out their own light

states of matter: *solid*, *liquid* and *gas* are the three *states of matter*

static electricity: unbalanced *positive* or *negative* electric charges that are standing still on an object

stationary: not moving

steel: an *alloy* of *iron* and *carbon*; it is a *magnetic material*

sterile: clean and free from *microbes*

sterilise: 1. to make someone or something incapable of producing *offspring*
2. to make something *germ-free*

stigma: the part of a *flower* that *pollen* must land on for *pollination* to happen

stimulant: *drug* that increases the *speed* that *nerves* carry messages, e.g. *caffeine*

stimulus: a change in the surroundings that living things respond to. Plural is stimuli

stomach: an *organ* in the *digestive system*

stomata: small holes on the underside of *leaves* which let *gases* in and out of the *leaf*. One is a stoma

strain: the overstretching of a *muscle*

streamlined: a shape that has very little *friction* or *drag* when it moves through a *gas* or a *liquid*

strength: how strong something is

style: the part between the *stigma* and the *ovary* of a *flower*

sublime, sublimation: process by which a *solid* changes straight into a *gas* when *heated*

subsoil: thin layer of *soil* that is beneath the *soil* on the surface but above the rock

sugar: a type of *soluble carbohydrate*

sulphates: *compounds* containing *sulphur* and *oxygen*; formed when *sulphuric acid* reacts with a *metal*

sulphur: a yellow *non-metal element*

sulphur dioxide: a *gas* that is produced when many *fuels* burn; it *dissolves* in *water* to make it *acid*

sulphur precipitators: used at power stations to remove *sulphur dioxide* from *waste gases*

sulphuric acid: a common *acid*; used in car batteries

Sun: the *star* at the centre of the *Solar System*

supple, suppleness: how easily your *joints* can move

surface tension: the *force* of the surface film of a *liquid*

survey: to collect information about something in order to learn more about it

suspension: *particles* mixed with a *liquid* but do not *dissolve*

sweat: *liquid* made in *sweat glands* which evaporates to cool you

sweep net: a net which is swept through long grass or *water* to catch tiny animals

switch: this is used to break an electric *circuit*

symbols: 1. a shorthand way of writing *elements*, e.g. H for *hydrogen* and Mg for *magnesium*
2. a simple way of showing bulbs, *cells* etc. in an electrical *circuit diagram*

symbol equation: a way of writing out what happens in a *chemical reaction* using *symbols* that represent the substances involved

symptoms: the effects that a *disease* has on your body

synovial fluid: *liquid* found between *bones* in a *joint* to stop them rubbing against each other

synovial joint: a *joint* containing *synovial fluid*

synthesis: joining together or making

T

tar: produced by tobacco when it burns; is *carcinogenic*

tarnish: lose or cause to lose its shine, especially as a result of exposure to *air* or *water*

teeth: hard *organs* in the jaws for cutting and crushing *food*. One is a tooth

telescope: an instrument that helps us to see distant objects like the *planets* and *stars*

temperature: how hot or cold something is

tendon: connective *tissue* at the ends of *muscles* that joins *muscles* to *bones*

terminal velocity: the highest *speed* that an object reaches when it moves through a *gas* or a *liquid*

territory: the space that an animal defends against other animals of the same kind

testes: where *sperm* (male *sex cells*) are made in humans and other animals; one is called a testis

theory: a series of ideas that attempt to *explain observations* and that can be supported by findings

thermal energy: the *energy* something has because it is hot

thermal decomposition: when something *decomposes* (breaks up) by being *heated*

thermometer: instrument used to measure *temperature*

thorax: middle section of an *insects* body

threshold of hearing: the quietest sound that can be heard

thunder: a *loud* rumbling or crashing *noise* heard after a *lightning* flash due to the *expansion* of rapidly *heated air*

tides: the twice-daily rise and fall of the level of the sea caused mainly by the *Moon*; a *renewable energy* source

tin: a metallic *element*

tissue: a group of similar *cells* that do the same job

tissue fluid: *liquid* between all the *cells* of your body that *materials* can *diffuse* through in *solution*

top predator: the last animal in a *food chain*

topsoil: the top layer of *soil*

total eclipse: a *solar eclipse* when the *Moon* completely blocks out light from the *Sun*

total internal reflection: when light is *reflected* inside a piece of glass or other *transparent material*

toxic: poisonous

toxin: chemical produced by *pathogens* that cause the *symptoms* of *disease*

trace: a tiny amount of something, almost too small to detect

trachea: tube between your throat and *bronchi*; also called the *windpipe*

transect: a strip of land selected to monitor the changes in composition of vegetation in an area

transfer, transferring, transferred: when something is moved from one place to another

transformer: piece of equipment used to change *voltages*

translucent: what we call substances when light can pass through but it is not *transparent*

transmit, transmitting: to send along or pass through

transparent: what we call substances that light can pass through

tree beating: hitting the branches of a tree and collecting small animals that fall out

triceps: *muscle* which *contracts* to straighten your arm

triplets: three *offspring* born at the same time

trophic level: the position a *species* occupies in a *food chain*

troposphere: lower layer of the *Earth's atmosphere* where there is most weather and movement of *air*

true worms: worms with soft, round, *segmented* bodies; also known as *annelid worms*

Tullgren funnel: sampling method used to collect small animals from *samples* of, for example, *leaves*

tumour: a *growth*, sometimes a *cancer*

turbine: this turns round when you *transfer kinetic energy* to it from *air*, or *water*, or steam that is moving; it *transfers energy* to a drive shaft, e.g. of a *generator*

turning effect: the *moment* of a *force*

twins: two *offspring* born at the same time

U

ultrasound: sound that has a *frequency* too high for humans to hear

ultraviolet: a type of *radiation* in the electromagnetic spectrum

umbilical cord: a tube containing the *blood* vessels between the *foetus* and the *placenta*

umbra: area of total *shadow* with no light

unbalanced forces: when two *forces* acting in opposite directions are not equal in *strength*

unicellular: *organisms* made of only one *cell*

universal indicator (UI): a *mixture* of *indicators* giving a different colour depending on how strong or weak an *acid* or *alkali* is

universe: all the *galaxies* and the space between them

unreactive: a chemical that does not react easily

unstable: 1. a chemical that can *decompose* very easily

2. something that is unsteady

upthrust: a *force* that pushes things up

uranium: a *fuel* used in nuclear power stations

urea: poisonous *waste* made when the *liver* breaks down *amino acids*

urethra: tube in which *urine* leaves your *bladder*

urine: *liquid* containing *water*, *salts* and *urea* excreted by the *kidneys*

uterus: where a baby develops before birth; also called the *womb*

V

vaccine, vaccination: a *mixture* containing *microbes* which normally cause *disease* but have been treated so that they don't. Injected into people to make them *immune*

vacuole: space filled with *cell sap* in the *cytoplasm* of a plant *cell*

vacuum: another name for completely empty space with no *particles*

vagina: opening of human female *reproductive system*

validity: how likely to be correct a *conclusion* is by looking at other *data*

valves: these stop *blood* from flowing the wrong way in the *heart* and in *veins*

Van de Graaff generator: *machine* that produces *static electricity*

variable: a *factor* in an experiment that can change

variable resistor: a *resistor* that can be adjusted to change the amount of *resistance*. Sometimes called a *rheostat*

variation: the differences between things

variety: a plant or animal that is different in some way from its *parents*

vary: differ

vas deferens: see *sperm duct*

veins: *blood* vessels which carry *blood* towards the *heart*

velocity: the *speed* of a moving object in a particular direction

ventilate, ventilation: the movement of *air*

ventricles: the two thick-walled lower chambers of the *heart*

vertebrates: animals with *skeletons* made of *bone* inside their bodies

vibrate, vibrations: to-and-fro movements; these can produce sounds

villi: tiny finger-like bumps in the lining of the *small intestine* that increase its surface area for *absorption*; one is called a villus

virus: a *microbe* which can only live inside another *cell*; *viruses* cause *diseases*

vitamins: substances in *food* which we need in small amounts to stay healthy

volcano: landform where *lava* flows out of the *Earth*

voltage: the amount of pushing that a *cell* does

voltmeter: a *component* that measures *voltage*

volts (V): units of *voltage*

volume: the amount of space that something takes up; it is measured in cubic centimetres (cm³) or millilitres (ml)

W

waste: unwanted *material* or *energy*

water: a *compound* formed when *hydrogen* reacts with *oxygen*; also called *hydrogen oxide*

water cycle: circulation of *water* through the *atmosphere* and the *Earth's* surface

Watt (W): unit for measuring *power*. One *Watt* is one *Joule* per second

wave: 1. a *renewable energy source* produced by the *wind* blowing over the sea
2. a way of *transferring energy*. *Waves* can be side to side or backwards and forwards movements

wavelength: the distance between the start of a *wave* and its end; the distance between the tops of two *waves* which are next to each other

weathering: the ways that the weather, and chemicals in *air* or *water*, break up or wear away rocks

weight: the *force of gravity* (usually the *Earth's*) on an object because of its *mass*; measured in *Newtons* (N)

white blood cell: a type of *blood cell* which helps to destroy *microbes*. They either engulf *microbes* or make *antibodies*

white light: normal daylight, or the light from light bulbs

wilt: when a plant lacks *water* and becomes floppy

wind: moving *air*; a *renewable energy source*

windpipe: another word for *trachea*

wind turbine: a kind of windmill that *generates* electricity using *energy* from the *wind*

womb: another word for *uterus*

word equation: a quick way of writing down what happens in a *chemical reaction*

X

xylem: a *tissue* that carries *water* and *minerals* from the roots to other parts of a plant

xylem tube: hollow tube formed from *xylem cells* and used to carry *water* up a plant

Y

year: the length of time it takes a *planet* to go around the *Sun*. One *year* on *Earth* is 365.25 *days*

yeast: a type of *fungus* with only one *cell*, and therefore a *microbe*; used to make bread, beer and wine; *yeasts* are bigger than *bacteria*.

yellow: *secondary colour* made by mixing red and green light

yield: how much *food* a plant crop or farm animal can produce

Z

zinc: a metallic *element*, widely used in *alloys*, e.g. *brass*

zygote: *cell* produced when a *sperm* joins an *egg*; a *fertilised egg*



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