

# Science Glossary

Term	Definition
<b>Abiotic</b>	Any nonliving thing (factor) that makes up an environment (e.g., sun, air, water, soil, temperature).
<b>Adaptation</b>	The development of physical and/or behavioral characteristics that allows organisms to survive and reproduce in their habitats.
<b>Anemometer</b>	An instrument that measures wind speed.
<b>Animal</b>	A multicellular organism of the kingdom Animalia, differing from plants in certain typical characteristics such as capacity for locomotion, nonphotosynthetic metabolism, pronounced response to stimuli, restricted growth, and fixed bodily structure. Humans are part of this kingdom.
<b>Assimilation</b>	The process by which an organism absorbs and utilizes a substance in its structure. (e.g., calcium is assimilated into teeth to make them strong).
<b>Asteroid(s)</b>	Any of the thousands of small bodies ranging in size from 480 miles (775 km) to less than one mile (1.6 km) in diameter that revolve about the sun in orbits lying mostly between the orbits of Mars and Jupiter.
<b>Atmosphere</b>	Several layers of gases above the hydrosphere (water) and lithosphere (land) surrounding Earth.
<b>Atom(s)</b>	The smallest component of an element having the chemical properties of the element, consisting of a nucleus containing combinations of neutrons and protons and one or more electrons bound to the nucleus by electrical attraction; the number of protons determines the identity of the element.
<b>Axis</b>	The imaginary line about which a rotating body, such as Earth, turns.
<b>Balanced condition</b>	The maintaining of a steady state (homeostasis) within an organism (e.g., maintaining human body temperature around 98.6°F).
<b>Balanced diet</b>	A diet consisting of the proper quantities and proportions of nutrients needed to maintain health or promote growth.
<b>Barometer</b>	An instrument that measures air (barometric) pressure.
<b>Biotic</b>	Any living thing (organism).
<b>Cause and effect</b>	A relationship between two variables in which one variable (the effect) results from the other variable (the cause).
<b>Cells</b>	The basic building block for all organisms.
<b>Chemical change</b>	When one or more substances are transformed into a new substance(s) with new and different properties.
<b>Circulatory system</b>	A collection of organs (e.g., heart, arteries, veins) that move blood throughout an organism.
<b>Climate</b>	The average weather conditions (temperature, air pressure, relative humidity, precipitation, sunshine, cloudiness, and winds) of a region, over a series of years.
<b>Cleavage</b>	A property of a mineral in which it breaks in smooth flat surfaces. Some minerals cleave in just one direction, while other minerals cleave in all directions.

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<b>Comet(s)</b>	A celestial body moving about a star, usually in a highly eccentric (non circular) orbit, consisting of a central mass surrounded by an envelope of dust and gas that may form a tail that streams away from the center.
<b>Community</b>	All the populations of a given ecosystem.
<b>Constant</b>	A factor or variable that does not change in an experiment or investigation.
<b>Convection currents</b>	Directed flow of gases or liquids in a circular pattern due to differences in temperature and density.
<b>Cyclic relationship</b>	As one variable changes, the value of the other variable repeats in a predictable pattern; for example the moon goes through phases that repeat on a monthly basis; the tides rise and fall every 6 hours.
<b>Deforestation</b>	The action or process of cutting down whole forests.
<b>Density</b>	The amount of matter (mass) per unit volume of a substance defined by the formula: density = mass/volume.
<b>Dependent variable</b>	In an experimental design, a dependent variable (or responding variable) is a factor which may change under different conditions controlled by the experimenter (the independent variable). In other words, the dependent variable is dependent on, or the result of, the condition of the independent variable in the experiment.
<b>Depletion</b>	To decrease or exhaust the supply of something, such as a natural resource, to the point that it adversely affects the environment.
<b>Deposition</b>	Eroded material dropped and accumulated in another location.
<b>Digestion</b>	The process by which food is broken up physically (as by the action of the teeth), and/or chemically (as by the action of enzymes) into substances able to be absorbed and assimilated into the body.
<b>Digestive system</b>	The digestive system is made up of organs that take in food (mouth) by a process called ingestion; organs that break down food (teeth, stomach, small intestine) into nutrients (protein, vitamins, minerals, carbohydrates, and fats) by a process called digestion; and organs that absorb water and eliminate undigested food (large intestine) by a process called egestion.
<b>Direct relationship</b>	The relationship between two variables in which both variables increase at the same rate or decrease at the same rate (e.g., as the angle of incoming solar radiation increases, the temperature increases; as the mass of a substance decreases, the volume of that substance decreases).
<b>Ecosystem</b>	All the communities of living organisms, together with its non-living environment, functioning as a unit.
<b>Egestion</b>	The process by which undigested food is eliminated from the digestive system.
<b>Equilibrium</b>	<i>Living Environment:</i> A state of balance due to a system remaining constant (static equilibrium – e.g., the amount of enzymes in the stomach between meals) or the equal action of opposing forces acting on a system (dynamic equilibrium – e.g., muscles pulling in opposite directions allow an organism to stand). <i>Physical Setting/Earth Science:</i> A state of balance due to a system remaining constant (static equilibrium – e.g., the amount of water in a swimming pool remains constant because no water is added or removed) or the equal action of opposing forces acting on a system at the same rate (dynamic equilibrium – e.g., the amount of water in a lake remains constant because the amount of water

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	entering the lake from a stream equals the amount of water leaving the lake by another stream)
<b>Erosion</b>	The movement of weathered rock and soil to a new location.
<b>Evaporation</b>	The process by which liquid water becomes gaseous water (vapor).
<b>Event</b>	Something that happens or occurs in a certain place during a particular time frame.
<b>External heat source</b>	A source outside Earth from which Earth obtains energy which may be converted to heat (not including its own internal heat source). <i>Example:</i> Earth receives light from the sun which is absorbed by the surface of the earth. Earth then reradiates the energy in the form of heat which is trapped by the carbon dioxide and other Greenhouse gases in the atmosphere (Greenhouse Effect). Note: Earth DOES NOT receive heat from the sun. If it did, outer space would be very warm not cold.
<b>Fracture</b>	A property of a mineral by which it breaks into jagged edges.
<b>Forms of water</b>	See <i>Phases of Matter</i> .
<b>Fossil</b>	Traces or remains of organisms that lived in the past.
<b>Gas</b>	A substance that has neither a determined shape nor definite volume (gases assume the shape and volume of a closed container).
<b>Greenhouse effect</b>	Earth receives light from the sun which is absorbed by the surface of the earth. The earth then reradiates the energy in the form of heat which is trapped by the Greenhouse gases (carbon dioxide, methane, and chlorofluorocarbons, i.e., CFC's) in the atmosphere. This keeps the earth warm. Note: Earth DOES NOT receive heat from the sun. If it did, outer space would be very warm not cold.
<b>Global warming</b>	An accumulation of excessive Greenhouse gases (carbon dioxide, methane chlorofluorocarbons, i.e., CFC's) causes the average planetary temperature to rise. Some believe this rise will result in the polar ice caps melting and flooding portions of Earth.
<b>Hardness</b>	A property of a mineral determined by how compact the atoms are that make up the mineral. It is defined by the Mohs scale which ranges from 1 being the softest mineral (talc) to 10 being the hardest mineral (diamond).
<b>Homeostasis</b>	The maintaining of a steady state within an organism (e.g., maintaining human body temperature around 98.6°F).
<b>Human</b>	Kingdom: Animalia→ Phylum: Chordata→ Subphylum: Vertebrata→ Class: Mammalia→ Order: Primates→ Suborder: Haplorrhini→ Family: Hominidae→ Genus: Homo→ Species: Homo sapiens
<b>Hydrosphere</b>	A thin layer of water on top of the lithosphere (land). Also called the oceans.
<b>Independent variable</b>	In an experimental design, an independent variable (or manipulated variable) is a factor which is controlled or selected by the experimenter to determine its relationship to the dependent variable. In other words, the values of the independent variable determine the values of the dependent variable.
<b>Indirect relationship</b>	The relationship between two variables in which as one variable increases and the other variable decreases (e.g., as the pore space in the soil increases, the amount of runoff decreases).

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<b>Ingestion</b>	The process of taking in food (eating).
<b>Interdependence</b>	Factors requiring one another within a system.
<b>Internal heat source</b>	System within Earth from which it obtains heat (e.g., geothermal activity).
<b>Inverse relationship</b>	The relationship between two variables in which the product of the two variables is constant. (e.g., When the independent variable is 1, the dependent variable is 8; when the independent variable is 2, the dependent variable is 4; multiplying the variables together each time results in 8.)
<b>Investigation</b>	A searching inquiry to discover something unknown or to test a principle or supposition. Traditionally, the scientific experiment used to test a hypothesis.
<b>Instrument</b>	Scientific equipment used to enhance (or make better) observations (e.g., meter stick, graduated cylinder, microscope).
<b>Liquid</b>	A substance that has a definite volume but takes the shape of the container (liquids assume the shape but not the volume of a closed container).
<b>Lithosphere</b>	A thin layer of rocks that compose the crust of Earth.
<b>Living thing</b>	Anything that possesses all of the characteristics of life: has cells, utilizes/needs energy, grows/develops, reproduces, has DNA (genetic code/heredity), responds to stimuli/environment, carries-out and maintains homeostasis.
<b>Luster</b>	The property of a mineral defined by how light reflects off of it. Minerals that reflect light are said to be metallic, while minerals that are dull and earthy that do not reflect light are said to be non-metallic.
<b>Mass</b>	The amount of matter within a given body. To measure mass a calibrated scale, two-arm balance, or a triple-balance beam is often used.
<b>Material needed for experimentation</b>	Objects needed (other than scientific tools) to perform an investigation (e.g., water, salt).
<b>Matter</b>	Anything that has mass and takes up space.
<b>Measurement</b>	Observations that are made with instruments and are usually based on numerical data (e.g., the table is 3 meters long).
<b>Meteor(s)</b>	A body that enters Earth's atmosphere and becomes incandescent (glows) as a result of the heat caused by friction. Commonly called a "shooting star."
<b>Mineral</b>	Any of a class of substances occurring in nature, usually comprising inorganic substances of definite chemical composition and usually of definite crystal structure. Minerals can easily be identified by simple properties such as streak, luster, hardness, cleavage and fracture.
<b>Non-living thing</b>	Anything that does not (or never did) exhibit the characteristics of living things as described in "Living Things."
<b>Objects</b>	Anything that is visible or tangible.
<b>Observation</b>	Any interaction with one or more of your senses with an object or the environment. Something that you see, hear, feel, taste, and/or smell.
<b>One-celled organism</b>	A living thing made up of only one cell. It carries out all of the characteristics of the life functions using only one cell (e.g., Bacteria, Yeast, and Protists).

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<b>Organ(s)</b>	A group of tissues arranged as a part of an organism which performs a specific function or group of functions. Some major animal organs are the heart, lungs, brain, eye, stomach, spleen, bones, pancreas, thyroid, kidneys, liver, intestines, skin (the largest human organ), uterus, and bladder. Some plant organs are vegetative organs: roots, stems, leaves, and reproductive organs: flower, seed, and fruit.
<b>Organ system(s) (group of organs that work together)</b>	<p>A group of organs that work together to perform a set of related functions. There are multiple systems in the human organ system, each with two or more different organs that work together.</p> <p>Some of these are:</p> <ul style="list-style-type: none"> <li>• Digestive: breakdown and absorption of nutrients and excretion of waste; includes, but not limited to, mouth, esophagus, stomach, small and large intestines.</li> <li>• Skeletal: support and movement, lymphocyte production, protection of internal organs; includes bones, cartilage, tendons and ligaments.</li> <li>• Muscular: support and movement, production of heat; includes skeletal muscles and smooth muscles throughout the body.</li> <li>• Nervous and endocrine: integration and coordination through electrochemical signals (nervous) and hormones (endocrine); includes, but not limited to, brain, spinal cord and peripheral nerves, and various glands, such as hypothalamus, pituitary, thyroid, pancreas and adrenal glands.</li> <li>• Respiratory: provide gas exchange between blood and the environment through elimination of carbon dioxide and absorption of oxygen; includes, but not limited, to nose, trachea and lungs. The mouth and throat are also part of this system.</li> <li>• Circulatory/Cardiovascular: transporting of needed materials to the cells and transporting of waste away from the cells; includes heart, blood vessels (arteries, capillaries, veins).</li> <li>• Reproduction: manufacture cells that allow reproduction; includes, but not limited to, female: ovaries, oviducts, uterus, vagina and mammary glands and male: testes, seminal vesicles and penis.</li> <li>• Integumentary: protects the body from infection and keeps the body from losing water; includes human skin cells.</li> <li>• Lymphatic system: regulate fluids and immunity by destroying and removing invading microbes and viruses from the body. The lymphatic system also removes fat and excess fluids from the blood; includes lymph, lymph nodes and vessels, white blood cells, T- and B- cells.</li> <li>• Excretory/urinary: filter out cellular wastes, toxins and excess water or nutrients from the circulatory system and maintain homeostasis of electrolytes; includes, but not limited to, kidneys, ureters, bladder and urethra</li> </ul>
<b>Organism</b>	A living thing that possesses the characteristics of life (e.g., plant, mammal, bird, insect, reptile, fish, crustacean, aquatic or estuarine animal, or bacterium).
<b>Organism response</b>	An organism's reaction to any stimulus (e.g., contraction of a unicellular organism when touched).

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<b>Ozone depletion</b>	The breaking down of the ozone layer of the atmosphere by chlorofluorocarbons (CFC's)—a component in some aerosol sprays and refrigerants. The ozone layer protects Earth from harmful ultraviolet radiation from the sun which causes cancer and deformities.
<b>Petrified</b>	Organic material converted into stone or a substance of stony hardness by the infiltration of water and the deposition of dissolved mineral matter, such as petrified wood.
<b>Phases Of matter</b>	Matter can exist in three phases (solid, liquid, and gas) which are determined by the temperature or average kinetic energy (relative movement) of the molecules within the substance. The faster and freer the particle movement the more likely the substance will be gaseous. As particle movement (temperature) changes, a substance can move from phase to phase and back again.
<b>Physical change</b>	A change of matter from one form to another without a change in chemical properties (e.g., water becomes ice, a boulder breaks into pebbles).
<b>Planet(s)</b>	Any of the eight, large celestial bodies revolving about the sun—Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune, in the order from the sun.
<b>Population</b>	All the individuals of one species living in a given ecosystem.
<b>Psychrometer</b>	An instrument used to measure relative humidity, which consists of a wet bulb thermometer and a dry bulb thermometer that usually spin around on a chain. The readings from the two thermometers are plotted on a chart and the relative humidity is determined.
<b>Qualitative results</b>	Data from an experiment or investigation based on non-numerical observations. (e.g., the solution turns blue).
<b>Quantitative results</b>	Data from an experiment or investigation based on numerical observations (e.g., the temperature rose to 13°C).
<b>Respiration</b>	There are two forms of respiration. Mechanical respiration is the inhalation and exhalation of air; breathing. Cellular respiration is the chemical change of glucose and oxygen into carbon dioxide and water, releasing energy during the process.
<b>Scientific investigation</b>	<i>See Investigation.</i>
<b>Scientific tool</b>	Instrument used specifically to make a better observation, usually with numbers (e.g., thermometer, ruler, beaker).
<b>Simple trends</b>	Pattern or relationship that data show in an investigation, generally occurring over time (e.g., constant, cyclic, direct, indirect, inverse).
<b>Solid</b>	A substance that has a definite shape and volume (solids do not assume the shape or volume of a closed container).
<b>Species</b>	Organisms that can mate and produce reproductive offspring.
<b>Star</b>	A self-luminous celestial body consisting of a mass of gas held together by its own gravity in which the energy generated by nuclear reactions in the interior is balanced by the outflow of energy to the surface, and the inward-directed gravitational forces are balanced by the outward-directed gas and radiation pressures. Our sun is a star.
<b>Thermometer</b>	An instrument for measuring temperature; often a sealed glass tube that

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	contains a column of liquid, usually an alcohol, that expands and contracts, or rises and falls, with temperature changes.
<b>Tissue</b>	A group of cells that function together as part of an organ (e.g., the eye has cornea tissue, retina tissue).
<b>Volume</b>	The amount of space occupied by a three-dimensional object as measured in units such as cubic centimeters, quarts or liters.
<b>Waste removal (Urinary system &amp; Digestive system)</b>	The food that the body can't digest is removed by the lower portion of the digestive system (the large intestine) by a process called egestion (See <i>Egestion</i> ). The cellular waste and excess nutrients that the body doesn't need are eliminated from the body by the urinary system in the form of urine.
<b>Water cycle</b>	The cycle of evaporation and condensation that controls the distribution of the earth's water as it evaporates from bodies of water, condenses, precipitates, and returns to those bodies of water.
<b>Weather conditions</b>	The present state of the atmosphere with respect to wind, temperature, relative humidity, sunshine, cloudiness, precipitation, air pressure, etc.
<b>Weathering</b>	A slow and continuous process of breaking down rocks chemically or mechanically into smaller and smaller pieces.
<b>Wind vane</b>	A device, such as a rod to which a freely rotating pointer is attached, for indicating the direction of the wind; also called a weather vane.

Some definitions drawn from: <http://www.sciencemaster.com/>; <http://www.thefreedictionary.com/>; <http://www.factmonster.com/index.html>; <http://www.merriam-webster.com/>; [http://en.wikipedia.org/wiki/Main\\_Page](http://en.wikipedia.org/wiki/Main_Page); [http://www.newworldencyclopedia.org/entry/Main\\_Page](http://www.newworldencyclopedia.org/entry/Main_Page); [http://animaldiversity.ummz.umich.edu/site/accounts/information/Homo\\_sapiens.html](http://animaldiversity.ummz.umich.edu/site/accounts/information/Homo_sapiens.html); The American Heritage® Dictionary of the English Language, Fourth Edition copyright ©2000 by Houghton Mifflin Company.

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