



Science Dictionary / Resource Booklet
Grades 7-12
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Dictionary

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Abiotic	A nonliving factor or element (eg, light, water, heat, rock, energy, mineral).
Accelerate	To cause to move faster.
Accuracy	The quality of being near to the true value; "he was beginning to doubt the accuracy of his compass".
Acid	This is anything that gives off H ⁺ ions in water. Acids have a pH less than 7 and are good at dissolving metals. They turn litmus paper red and phenolphthalein colorless.
Albedo	The percentage of light reflected by an object.
Altitude	The height measured from sea level up to any given point; a distance measured upwards;
Apparatus	Equipment designed to serve a specific function. For example a thermometer and a beaker.
Aquaculture	Farming of plants and animals that live in water, such as fish, shellfish and algae.
Aquatic	Relating to water; living in or near water, taking place in water
Artificial	Anything made by man
Attraction	A force on something causing it to approach or come closer to an object.
Base	A Base is a substance that has a pH of more than 7. A base is most commonly thought of as a substance that can accept protons.

Biomass	The total mass, at a given time, of living organisms of one or more species per unit area (species biomass) or of all the species in the community (community biomass).
Biosphere	The region on land, in the oceans, and in the atmosphere inhabited by living organisms.
Biotic	Living components of an ecosystem.
Boiling	To change something from a liquid to a gas.
Botany	The scientific study of plants, a branch of biology.
Buoyancy	The tendency of a body to float or rise when submerged in a fluid.
Carnivores	Organisms that only eat meat.
Catastrophic	Of or pertaining to a catastrophe; Disastrous; ruinous
Cells	Is the basic working units of living systems, which contain DNA.
Cellular Respiration	The process organisms undergo that converts glucose to energy, usually using oxygen and glucose to produce ATP, carbon dioxide, and water.
Chemical Formula	Sometimes called the molecular formula, indicates the elements that make up a chemical compound.
Chronological	In order of time from the earliest to the latest
Classification	The act of distributing things into classes or categories of the same type

Climate	The average and variations of weather in a region over long periods of time.
Climax Community	The final and relatively stable stage in plant succession
Composition	The chemical make up of a given substance.
Compress	The act of pressing together or to force into a smaller space.
Concentration	The relative amount of a substance mixed with another substance.
Conclusion	The end of a reasoning process involving data, evidence, or observations from an investigation.
Condensation	The process of changing from a gaseous to a liquid or solid state
Conduction	The transfer of heat energy (or electricity) through a substance or from one substance to another by direct contact of atoms or molecules.
Conductors	A substance that allows heat (or electric current) to pass through it easily.
Conservation	The protection or wise use of natural resources that ensures their continuing availability to future generations
Consumer	Any organism that cannot produce its own food and must, therefore, get its energy by eating, or consuming, other organisms
Continental Shelf	A region of relatively shallow water surrounding each of the continents.
Contraction	The process or result of becoming smaller or pressed together

Convection	A method of transferring heat energy by the movement of the heated substance itself. This occurs in fluids such as liquids and gases
Converge	To be adjacent or come together; "The lines converge at this point"
Curvature	A measure of the amount of curving. The curvature of a lens is what causes light rays to bend.
Decomposer	Organisms such as fungi and bacteria that feed on dead material causing the chemical breakdown of the material
Density	The ratio of the amount of matter in an object compared to its volume. A small, heavy object, such as a rock or a lump of lead, is denser than a larger object of the same mass, such as a piece of cork or foam.
Differentiate	Give reasons, pro and con, with details. Analyze with supporting evidence.
Displacement	Is the shortest distance between two points: the origin and the displaced point.
Dissolve	When something dissolves it breaks up into particles (generally single atoms or molecules) too small to see. The solution, or liquid, appears clear.
Distillation	The act of purifying liquids through boiling, so that the steam condenses to a pure liquid and the pollutants remain in a concentrated residue.
Diverge	To move or draw apart; "The two paths diverge here"
Dynamics	When things change often they are referred to as dynamic. (unstable)
Ecology	The study of the relations of organisms to their environment, including other organisms
Ecosystem	All the living and nonliving things in an environment, including their interactions with each other

El Nino	A weather phenomenon that occurs in the eastern and central equatorial Pacific Ocean. During an El Nino, the affected area's winds weaken and sea temperatures become warmer.
Electron	One of the basic particles which makes up an atom. The electron is found in the nucleus and has a negative electrical charge.
Energy	The capacity of a physical system to do work; the units of energy are joules
Environment	The complex of physical, chemical, and biological factors in which a living organism or community exists
Eras	Very long periods of time of biological or geological activity.
Erosion	The wearing away of land or soil by the action of wind, water, or ice.
Estuaries	Areas where fresh and salt water mixes.
Expansion	The act of increasing (something) in size or volume or quantity or scope
Fluctuations	Continuous ups and downs in data.
Focal Point	A point in which light rays converge after passing through a lens.
Food Chain	A sequence of organisms in a community in which each member of the chain feeds on the member below it, as in fox eats a rabbit which eats grass.
Food Web	A pattern of numerous food chains which are combined.
Force	Is what causes a mass to accelerate. It may be experienced as a twist, a push, or a pull.

Freezing	The process whereby a liquid turns to a solid.
Frequency	The number of waves passing a given point in one second.
Gas	A gas is one of the states of matter, consisting of a collection of particles (molecules, atoms, ions, electrons, etc.) without a definite shape or volume that are in more or less random motion.
Genotype	The genes of an organism. Refers to the an individual's genetic make up.
Geographical	Relates to geography. Geography is the study of the earth and its features, inhabitants, and phenomena.
Geological	Relates to Geology. Geology is the science and study of the solid matter that constitutes the Earth.
Glaciers	A glacier is a large, slow moving river of ice, formed from compacted layers of snow, that slowly deforms and flows in response to gravity.
Global	Of or pertaining to the whole world, worldwide.
Gravity	The force of attraction between all masses in the universe; especially the attraction of the earth's mass for bodies near its surface. The earth pulls things towards it.
Gravity	The force of attraction between all masses in the universe; especially the attraction of the earth's mass for bodies near its surface.
Habitat	The physical and biological environment on which a given species depends for its survival; the place or type of site where an organism lives.
Heat Capacity	The amount of heat it takes to raise the temperature of one gram of a material one degree Celsius.
Herbivores	Are animals that eat plants

Heterogeneous	A Mixture where materials are not uniform throughout.
Homogeneous	A Mixture where materials are uniform (the same) throughout.
Hypothesis	A tentative conjecture explaining an observation, phenomenon, or scientific problem that can be tested by further observation, investigation, and/or experimentation.
Ice Age	A period during which the Earth is substantially cooler than usual and a significant portion of its land surface is covered by glaciers.
Infrared	The band of light in the electromagnetic spectrum that lies between the visible light range and the radar range.
Insulators	Materials in which heat (or electric charges) do not move freely.
Intensity	The degree of strength. For example The brightness or dullness of a color.
Interactions	Interaction is a kind of action that occurs as two or more objects have an effect upon one another
Interpret	To make sense of; assign a meaning to; "What message do you see in this letter?"; "How do you interpret his behavior?"
Invert	To transpose, reverse, change to the opposite.
Kinetic Energy	Kinetic energy is the energy possessed by an object because of its motion. All moving objects have kinetic energy.
La Nina	Is characterized by large scale cooling of the tropical Pacific Ocean
Liquid	A liquid is a fluid that has the particles loose in an object & can freely form a distinct surface at the boundaries of its bulk material. The surface is a free surface where the liquid is not constrained by a container.

Local	Restricted to relatively small areas.
Magnet	A substance, usually metallic, that has the ability to attract similar substances with a force that is not electric or gravitational.
Marine	Of or relating to the sea
Mass	How much matter there is in an object.
Matter	Anything that has mass and takes up space.
Medium	The material or empty space through which signals, waves or forces pass.
Meteorological	The science that deals with the phenomenon of the atmosphere, especially weather and weather conditions.
Microorganism	An organism that can be seen only through a microscope. Microorganisms include bacteria, protozoa, algae, and fungi.
Microscope	Is an instrument for viewing objects that are too small to be seen by the naked or unaided eye.
Minerals	Minerals are natural compounds formed through geological processes. Minerals range in composition from pure elements and simple salts to very complex compounds.
Mixtures	A combination of elements, compounds, or both.
Moisture	Moisture generally refers to the presence of water, often in trace amounts.
Neutron	One of the basic particles which makes up an atom. The Neutron is found in the nucleus and has a neutral electrical charge.

Niche	The role of an organism in an ecosystem
Nutrients	Substances required by organisms in order to grow and survive such as nitrogen and phosphorus.
Nutrition	The study of foods and nutrients and their effect on health, growth and development of the individual.
Observations	Information gathered through any of our five senses or instruments that extend these senses.
Omnivores	Consumers that eat both plants and animals, such as black bears, pigs, and humans.
Organelles	Small structures within a cell that maintain the cells and do the cells' work.
Organism	A living thing, such as an animal, a plant, a bacterium, or a fungus.
Organs	Groups of similar tissues joined to perform the same function.
Paradigm	The set of common beliefs and agreements shared between scientists about how problems should be understood and addressed.
Particles	Very small pieces of solid or liquid matter.
Pedigree	A chart used to trace the history of traits in a family.
Precision	The state of being precise or exact; exactness; the ability of a measurement to be reproduced consistently.
Periodic Table	A chart showing all the elements arranged in columns with similar chemical properties.

Permeability	A measure of the ease with which one material penetrates another material.
Pesticide	Chemical products used to reduce or eliminate unwanted organisms, regarded as "pests".
Phenotype	The observable traits or characteristics of an organism, for example hair color, weight, or the presence or absence of a disease.
Photosynthesis	The process by which green plants, algae, and some bacteria manufacture simple sugars (carbohydrates) in the presence of sunlight, carbon dioxide, and water.
Pollution	Pollution is the introduction of contaminants into the environment that cause harm or discomfort to humans or other living organisms, or that damage the environment.
Population	A group of individual organisms living in a particular geographical space
Porosity	A measure of the number and size of the spaces between each particle in a rock. Porosity affects the amount of liquid and gases, such as natural gas and crude oil, that a given reservoir can contain.
Potential Energy	Potential energy can be thought of as energy stored within a physical system. This energy can be released or converted into other forms of energy.
Procedure	Step-by-step instructions on how to perform a task based on technical and theoretical knowledge.
Producer	An organism, generally a plant or algae, that can produce organic food molecules using the sun's energy or by other chemical reactions.
Properties	A characteristic used to describe something. For example a color, shape or taste.
Proton	One of the basic particles which makes up an atom. The proton is found in the nucleus and has a positive electrical charge.
Punnet Square	Is a diagram that is used to predict the outcome of a particular cross or breeding experiment.

Pure Substances	A material of which any sample's properties are the same, and is either an element or a compound.
Qualitatively	Determining a relative property of a substance, without assigning numerical values. Example: the word "hot" merely indicates a relative temperature.
Quantitatively	Determining a specific property of a substance, usually using numbers. Example: the water is 23.5 degrees is a quantitative measurement.
Radiation	Transfer of energy in the form of waves.
Refraction	The process by which the direction of a ray of light changes as it passes obliquely from one material to another.
Regional	An area that is larger than the local area, but smaller than the global area.
Reproduce	The biological process by which new individual organisms are produced
Repulsion	A force on something causing it to move away from another object.
Salinity	The amount of dissolved salts in water.
Saturated	When the maximum amount of solute is dissolved in a liquid
Silviculture	Management of forest land for timber.
Solid	A state of matter that retains its size and shape without need of a container.
Solubility	A measure of how much of a given substance will dissolve in a liquid.

Solute	The solid that gets dissolved in a solution.
Solution	A mixture of a solute and a solvent, for example a sugar and water solution, where the solute is the sugar and the solvent is the water
Solvent	A liquid capable of dissolving another substance to form a solution.
Species	A group of similar organisms having common characteristics capable of interbreeding.
Sublimation	The process whereby ice changes directly into water vapor without melting.
Succession	The replacement of one plant community by another over time.
Surface area	The area of an object that is exposed. In other words, if you took a tennis ball, the outside of the ball is it's surface area.
Sustainability	Is the process of conducting business and commerce in a resource conservative and resource efficient manner such that operations do not compromise the ability of future generations to meet their own needs.
Symbiosis	The close relationship of two organisms in proximity, with one benefitting and the other either benefitting (mutualism), not being significantly affected (commensalism), or being harmed (parasitism) by the relationship.
Technology	A piece of equipment or a technique for performing a particular activity.
Tectonics	The study of crustal plates and other large-scale structural features of the Earth
Telescope	A device used to see distant objects, such as those in space.
Temperature	A measure of the average kinetic energy of all the particles in an object

Texture	The feel or shape of a surface or substance; the smoothness, roughness, softness, etc. of something.
Theory	An explanation for some phenomenon that is based on observation, experimentation, and reasoning.
Thermometer	A measuring instrument for measuring temperature.
Tissues	Groups of similar cells joined to perform the same function.
Toxin	A substance that is harmful or poisonous to the body.
Unsaturated	A solution which is holding less solute than it is able to hold under a given set of conditions.
Variables	A variable is a factor subject to change within an experiment, that is, its value may change (within certain limits).
Velocity	is distance traveled per unit time in a given direction.
Viscosity	Viscosity is the measure of a material's resistance to flow. A higher viscosity results in a slower flow rate.
Volume	The three-dimensional concept of how much space an object takes up
Waste	Materials or substances that are no longer needed or useable.
Wavelength	The distance between one peak of a wave of light, heat, or other energy and the next corresponding peak.
Weathering	The breaking down of rock into smaller pieces by the action of wind, rain and temperature differences.
WHMIS	(Workplace Hazardous Materials Information System) is a detailed system of labeling and information designed to inform workers who deal with dangerous chemicals the proper way to handle them.