

Glossary

A

abiotic	Non-living
absolute dating	Any method of measuring the age of an event or object in years
abyssal plain	Large, flat area of deep ocean
acceleration	The rate of change of velocity with respect to time
acid	A substance that dissolves in water with the formation of hydrogen ions and reacts with bases to form a salt and water. It neutralizes alkalis, dissolves some metals, and turns litmus red; typically corrosive and sour tasting liquid.
adaptation	Adjustment to environmental conditions, modification of an organism or its parts that makes it more fit for existence under the conditions of its environment.
air mass	Large body of air where temperature and moisture content are similar throughout
alleles	Any of the alternative forms of a gene that may occur
amniotic egg	Type of egg that is surrounded by a membrane and shell and contains a yolk
anemometer	Instrument for measuring and indicating the force or speed of wind
angiosperm	Flowering plant that produces seeds within fruit
apparent magnitude	The brightness of a star as seen from the Earth
asexual reproduction	Reproducing by processes that do not involve the union of germ cells or egg and sperm
asteroid	A small rocky body orbiting the sun; smaller than a planet
asthenosphere	Soft layer of the mantle on which the plates move
atmosphere	The gaseous blanket surrounding the earth, containing oxygen, nitrogen, and other gases

atmospheric pressure	The pressure exerted by the atmosphere at the surface of the Earth due to the weight of the air
atom	The smallest particle of an element that can exist either alone or in combination
atomic number	The number of protons in the nucleus of an atom.
B	
bacteria	Unicellular, prokaryotic microorganisms that lack chlorophyll, multiply by fission, and occur in three main forms: spherical, rod-shaped, and spiral.
balance	Instrument for measuring mass
barometer	Instrument for determining the pressure of the atmosphere
base	A substance that dissolves in water with the formation of hydroxyl ions and reacts with an acid to form salt and water, turns litmus paper blue
benthos	Organisms that live at the bottom of the ocean
biodiversity	Number and variety of organisms in a given area during a specific time
biomass	Amount of living matter
biome	Major ecological community such as tropical rain forest or desert
biotechnology	Biological science when applied especially in genetic engineering.
biotic	Relating to life
boiling point	Temperature at which a liquid changes into a gas
buoyancy	Upward force of water against objects

C

Capacity	Maximum amount or number that can be contained or Accommodated
carnivore	Flesh-eating animal
cell	Smallest structural and functional unit of an organism
cell division	Formation of two daughter cells from one parent cell, Mitosis
cell membrane	Structure that controls the entry of materials into a cell
cell respiration	Metabolic processes which break down nutrients into usable energy
cell wall	Structure outside the cell membrane of a plant cell; provides structure and support
characteristic	Distinguishing trait, feature, or property
chemical change	Change in a substance resulting in an entirely different substance with different properties from the first
chemical property	characteristics determined by the reaction between two substances
chemosynthesis	Synthesis of organic compounds by energy from chemical reactions
chloroplast	Contains chlorophyll and is the site of photosynthesis in the cell
chromosome	Threadlike structure of nucleic acids and protein found in the nucleus of most cells, carrying genetic information in genes
chrysalis	The pupa of a butterfly and some insects
cilia	Fine hair-like projections of the cell surface which beat in unison to propel the cell through a medium
circuit	The complete path of an electric current usually including the source of the electric energy

classification	Systematic arrangement in groups or categories according to established criteria
climate	Average condition of the weather at a place usually over a period of years
comet	Celestial body that consists of a fuzzy head surrounding a bright nucleus, has an highly eccentric orbit, and develops a tail which points away from the sun
commensalism	Relationship between two organisms in which one benefits and the other is unaffected
community	Interacting populations that live in a defined habitat
competition	Struggle among organisms for food, space, and water
composition	Qualitative and quantitative makeup of a chemical compound
compound	Substance made up of two or more different elements joined by chemical bonds
condensation	Conversion of a substance from a gaseous state to a liquid or solid state caused by reducing temperature
conservation	Careful preservation and protection of something
consumer	Organism requiring complex organic compounds for food, which it obtains by preying or eating particles of organic matter
contour line	Line connecting points of equal elevation
control	Group used as a standard or comparison for checking results in an experiment
convection	Circulatory motion that occurs in a fluid at a non-uniform temperature because of density
convergent	Coming together at a point
core	Central part of a celestial body with different properties from surrounding parts

covalent	Chemical bonds formed by the sharing of electrons between atoms
crust	Outer part of a planet composed of crystalline rocks
crystal	Solid substance with natural geometric form and symmetrically arranged plane faces
current	Continuous flow of air, water or electric current
cycle	Interval of time during which a sequence of recurring succession of events is formed
cytokinesis	Division of cytoplasm of a cell
cytoplasm	Living material within a cell membrane containing organelles
D	
decay rate	Rate at which a radioactive isotope disintegrates
decomposers	Organisms such as fungus and bacteria that feed on and break down dead organisms while returning organic substances to the environment
density	Ratio of mass to volume
dichotomous key	Used in classifying; answers a series of questions
diffusion	Movement of materials from a region of greater concentration to a region of lesser concentration
digestion	The break down of food into soluble materials that can be used by the body
divergent boundaries	Boundary between two plates that are moving away from each other
DNA	Deoxyribonucleic acid which replicates and is found in chromosomes. It contains the genetic code and transfers heredity patterns.

Dominant	A gene, when present, is expressed as the phenotype
Dynamic equilibrium	Changes occurring but a balance maintained among the changes keeps overall the same
E	
eclipse	Total or partial obscuring of one celestial body by another
ecology	Study of interactions and relationships between organisms and their environment
ecosystem	Community of organisms and its environment functioning as an ecological unit
ectotherm	Organism that needs a source of heat outside of the body
egg	female gamete; ovum
electricity	Form of energy resulting from existence of charged particles either statically or dynamically as a current
electromagnetic radiation	Kind of radiation including visible light, radio waves, gamma rays, and x-rays
electromagnetic spectrum	Entire range of wavelengths of electromagnetic radiation
electron	Stable subatomic particle with a negative charge found orbiting the nucleus
element	Substances that consist of only one kind of atom
endocrine system	Collection of glands that secrete hormones to regulate the body
endotherm	Animal capable of using internal body heat to maintain a constant body temperature
endothermic	Formed with the absorption of heat
energy	Capacity for doing work
energy pyramid	Triangular diagram showing loss of energy in an ecosystem as it passes through the food chain
environment	Physical, chemical, and biotic factors that act upon an

	organism determining its form and survival
epicenter	Part of earth's surface directly above the focus of an earthquake
equilibrium	State in which opposing forces or influences are balanced
erosion	process by which wind, water, ice, and gravity transport soil and sediment from one location to another
estuary	Area where fresh water from a river meets with salt water from the ocean
eukaryotic	Organisms composed of one or more cells containing a visible nucleus
evaporation	change of state from liquid to gaseous
evolution	changes in genetic composition of a population through successive generations
excretory system	system of body which is responsible for the removal of wastes
exoskeleton	Hard, external supporting structure
exothermic	formed by releasing heat
extinct	Species of organisms that no longer exists
F	
fault	Crack in earth's crust along which movement occurs
fermentation	Breakdown of food without the use of oxygen
fertilization	Uniting of the egg and sperm
fission	splitting of an atomic nucleus resulting in large amounts of energy
flagella	long hair-like extensions from cell surface used for movement
focus	Place of origin of an earthquake

fold	Bend in a rock layer due to stress
food chain	Arrangement of organisms of an ecological community according to order of predation for use as a food source
food web	Interacting food chains in an ecological community
force	Influence that results in the acceleration of a body in the direction of its application
fossil	Any remains, trace, or evidence of an organism that has been preserved
fossil fuel	A fuel that is formed in the earth from plant or animal remains
friction	Force that resists relative motion between two bodies in contact
front	Boundary between air masses with different densities
fungi	Group of saprophytic and parasitic spore-producing organisms
fulcrum	Point or support on which a lever turns
fusion	Union of atomic nuclei to form heavier nuclei resulting in large amounts of energy
G	
galaxy	Large groups of stars and associated matter found in the Universe
gas	State of matter having no independent shape or volume; tends to expand indefinitely
gene	Heredity unit located on a chromosome and controls the transfer of hereditary characteristics
genotype	Entire genetic makeup of an individual

germination	Beginning of growth of a spore, seed, zygote, etc
glacier	Moving mass of ice
global warming	Gradual increase of the average global temperature
gravity	Attraction between two bodies affected by mass of bodies and the distance between the two
greenhouse effect	Warming of the surface and lower atmosphere of Earth that occurs when water vapor, carbon dioxide, and other gases absorb and radiate thermal energy
gymnosperm	Woody, vascular seed plant whose seeds are not enclosed in fruit

H

habitat	Place or environment where a plant or an animal naturally or normally lives and grows
hardness	A mineral's resistance to being scratched
heat	Energy associated with motion of atoms or molecules
herbivore	Plant-eating animal
heredity	Sum of qualities genetically derived from one's ancestors
heterotroph	Organism that gets its food by eating other organisms; cannot make its own food
homeostasis	State of equilibrium between different but related functions or elements
hormone	Substance produced by the body that helps regulate the body
host	Organism from which an parasite takes food or shelter
hot spot	Volcanic activity away from a tectonic plate
humidity	Amount of moisture in the atmosphere

hydrosphere Water of the earth including bodies of water and vapor in the atmosphere

hypothesis Scientific prediction derived from data and research

I

igneous Rocks formed as the result of magma or volcanic activity

index fossil Fossils used to determine age of rock layers

infrared radiation Invisible rays just beyond the red end of the visible spectrum

inertia Tendency of a body to resist acceleration

invertebrate Animal without a backbone

ion Atom or group of atoms with a positive or negative charge due to the loss or gain of an electron

isobar Lines on a weather map connecting equal points of pressure

isotherm Lines on a weather map connecting equal points of temperature

isotope Atoms of an element with the same atomic number, but different atomic mass

J

jet stream narrow belt of strong winds that blow in the upper Troposphere

joint Place where two bones meet

K

kinetic energy Energy associated with motion

kingdom Largest group in the hierarchy of classification

L

landform Natural feature of a land surface

latitude Distance north or south of the Equator

lava molten rock found above the surface

lens Curved piece of glass used for magnifying or focusing

lever Simple machine consisting of a rigid body fixed on a Fulcrum

life cycle Series of stages from fertilized ovum to fertilized ovum of next generation

light-year Distance light travels in one year; about 9.46 trillion kilometers

liquid State of matter that takes the shape of its container but has a definite volume

lithosphere Outer part of solid earth composed of rock

littoral zone Shallow zone of lake or pond where light reaches the bottom

locomotion Act of moving from place to place

longitude Position east or west of the prime meridian

luster Way in which a mineral reflects light

M

machine Any system that alters direct applied force

magma Molten rock within the earth

mantle	Part of the interior of the earth that lies beneath the lithosphere and above the central core
marsupial	Mammal that carries and nourishes its young in a pouch
mass	Property of a body that is a measure of the gravitational pull on that body
matter	Has mass, takes up space
mechanical advantage	Ratio of the output force to the input force
meniscus	Curved upper surface of a liquid in a container
meiosis	Process in cell division during which the number of chromosomes decreases to half the original; production of gametes
metabolism	Sum of all chemical processes that occur in an organism
metal	Category of elements that are typically ductile, malleable, and have a high tensile strength
metamorphism	Change in constitution of rock affected by pressure and heat that results in more compact and highly crystalline condition
metamorphosis	Phase in life cycle of organism during which a change from egg to adult
meteor	Any small particles of matter in the solar system; visible by incandescence from friction in atmosphere
meteoroid	Celestial body of various sizes that appear as meteors when they enter earth's atmosphere
metric system	Decimal system of weights and measures based on the meter and kilogram
microwave	Electromagnetic radiation found between radio waves and infrared radiation
Milky Way	Galaxy in which our solar system is found
mineral	Solid, crystalline chemical element resulting from inorganic processes

mitochondria	Cell structure responsible for cellular respiration
mitosis	Process of cell division that forms two new nuclei with the same number of chromosomes
mixture	Matter consisting of two or more components that retain their own properties
molecule	Smallest particle of a substance that retains all the properties of the substance and is composed of one or more atoms
motion	Act of changing position through time
multicellular	Having many cells
mutation	Change in hereditary material involving a physical change in chromosomes or a biochemical change in genes
mutualism	Relationship between two species in which both species benefit

N

natural resource	Natural materials used by humans, such as water, minerals, and animals
natural selection	Principle that individuals having characteristics that aid survival will produce more offspring and the proportion of such individuals having that characteristic will increase with each generation
nebula	Large cloud of gas and dust in interstellar space
nekton	Organisms that swim in ocean water, independent of currents
neuron	Nerve cell that sends and receives electrical impulses
neutral	Neither acid or base
neutrons	Uncharged particles that has mass nearly equal to that of a proton and is found in the nuclei

noble gas	Inactive or inert gases
nonmetal	Elements composed of negatively charged ions and are poor conductors of heat and electricity
nonrenewable	Resources that form at a rate much slower than the rate of consumption
nonvascular plant	Plants that lack specialized conducting tissues and true roots, stems, and leaves
nuclear	Referring to particles and properties of the atomic nucleus
nuclear reaction	Change in the characteristics of an atomic nucleus that results when it is bombarded with an energetic particle
nucleus	1. Positively charged central portion of an atom that comprises most of the atomic mass and protons and neutrons 2. Portion of a eukaryotic cell that is surrounded by a nuclear membrane and contains DNA
nutrient	Substance that can be used by the body for energy and growth and repair
O	
observe	Watch carefully with attention to detail so as to arrive at a Judgment
omnivore	Animal that feeds on both animal and plant substances
orbit	Path described by one body in revolution about another
organ	Structure consisting of cells and tissues and performing a specific function
organic	Compounds containing carbon and chiefly of biological origin
organism	Any living thing that carries out activities of life
osmosis	Diffusion of water through a semi-permeable membrane

oxidation	Combination of a substance with oxygen
ozone	O ₃ ; formed from diatomic oxygen by electric discharge or exposure to ultraviolet radiation
P	
parallax	apparent shift in position of an object when viewed from different locations
parasite	Organism living in, with, or on another organism where the parasite benefits and the host is usually injured
pedigree	Diagram showing occurrence of a genetic trait in several generations of a family
periodic table	Arrangement of chemical elements based on properties
permeability	Ability to allow fluids to pass through
pH scale	Measure of the acidity or alkalinity of a chemical solution
phenotype	Organism's appearance
pheromone	substance released by body that causes another member of the species to react in a predictable way
photosynthesis	Chemical process by which chlorophyll-containing plants use light to convert carbon dioxide and water into carbohydrates, releasing oxygen as a byproduct
phloem	Tissue that conducts food in vascular plants
physical change	Change in a substance that does not alter its chemical makeup
physical properties	Properties of a material that can be observed without changing the chemical makeup of the material
plankton	Organisms that float or drift freely in freshwater and marine environments
plate tectonics	Theory that explains how large pieces of the earth's crust move and change shape

pitch	Property of sound that is determined by the frequency of waves producing it; highness or lowness of sound
planet	Any of the large bodies that revolve around the sun in the solar system
pollination	Transfer of male reproductive structures to the female structures of seed plants
pollution	Substances that when added to the environment cause the environment to be harmful or unfit for life
population	All plants and animals of the same kind found in a given area
potential energy	Energy that matter has because of its position
precipitation	Any form of water that falls to the earth from clouds
predator	Animal that lives by capturing prey as a means of maintaining life
prey	Animals taken by predator as food
prism	Transparent solid with triangular bases that produces a spectrum by refracting light
producer	Organisms which produce their own food and are food for other organisms
prokaryotic	Cellular organism that does not have a distinct nucleus
property	Quality or trait belonging to an individual
proton	Stable subatomic particle in all nuclei with a positive charge
Q	
qualitative	Observations that describe
quantitative	Observations that include measurement of amounts

R

radiation	Transfer of heat in the form of waves
recessive	Trait that only appears when there is no dominant trait Present
recycle	To process in order to regain material for human use
reflection	The bouncing off of a body or surface of light, heat, or sound without absorption
reflex	Involuntary response to a stimulus
refraction	Deflection from a straight path undergone by light or other energy wave when passing from one medium into another
relative dating	Methods of determining whether an event or object is older or younger than other events or objects
relative humidity	Ratio of amount of water vapor in the air to the maximum amount that can be held at that temperature
renewable	Natural resource that can be replaced at the same rate that it is consumed
repel	Force away or apart
replicate	Duplicate
reproduction	Process by which organisms give rise to offspring
resource	Materials supplied by nature that can be used by an organism
respiration	Exchange of oxygen and carbon dioxide between living cells and their environment; includes breathing and cellular respiration
revolution	Motion of a body that travels around another body in space
ribosome	Cell structure where protein synthesis occurs
rock	Naturally occurring solid mixture of one or more minerals

rock cycle Series of processes in which rocks change from one type to another

rotation Spin of a body on its axis

S

salinity Measure of amount of dissolved salts in a liquid

satellite Small body orbiting a planet

scavenger Organism that feeds on dead organisms

scientific method Series of steps followed to solve a problem

scientific theory Body of principles offered to explain phenomena

sea-floor spreading Process by which new ocean floor forms as magma rises from mid-oceanic rift zone

sediment Material deposited by water, wind, or glacier

seed Fertilized and ripened ovule containing embryo capable of producing a new plant

seismology Study of earthquakes

sexual reproduction Reproduction in which sex cells from two parents unite to form offspring

smog Photochemical haze formed when sunlight acts on pollutants and burning fuels

soil Loose mixture of rock fragments, organic matter, water, and air that can support vegetative growth

solar energy Energy received from the sun

solubility Amount of a substance that will dissolve in a given amount of another substance

solution Solid, liquids or gases that are mixed with a liquid

sound waves	Mechanical radiant energy transmitted by waves in a medium such as air
species	Group of organisms consisting of similar individuals capable of exchanging genes or interbreeding
spectrum	Band of colors produced when white light passes through a prism
speed	Measure of the rate of motion; distance divided by time
sperm	Male gamete
spore	Reproductive cell that can develop into an adult without fusing with another cell
star	Natural luminous body visible in the sky
static electricity	Accumulation of an electric charge on an insulated body
stimulus	Anything that causes a reaction or change in an organism
succession	replacement of one type of community with another in a single location over a period of time
survival	Continuation of life
symbiosis	Relationship in which two different organisms live in close association with each other
system	Group of body organs performing a specific function

T

taxonomy	Science of classifying
technology	Application of science for practical purposes
temperature	Measure of average kinetic energy
theory	System of ideas intended to explain something

thrust	Pushing or pulling force exerted on engine of aircraft or rocket
tides	Rising and falling of the surface of the ocean caused by gravitational attraction of the sun and moon
till	Deposits left by melting glacier
tissue	Group of cells that work together to perform a specific function
trait	Inherited characteristic
transform	Change in composition or structure
transpiration	Process by which plants release water vapor into air through stoma
tropism	Response of plant to an external stimulus
tsunami	Giant ocean wave formed after volcanic eruption, earthquake or landslide

U

ultraviolet light	Radiation just beyond violet in the visible spectrum
unconformity	Break in geological record when rock layers are eroded
unit	Quantity used as a standard of measurement
uplift	Cause to rise above adjacent areas

V

variable	Factor in an experiment that changes to test hypothesis
vascular plant	Plant with specialized tissues that conduct materials from one part of the plant to another part

velocity	Rate of change of position and direction with respect to time
vertebrate	Animal with a backbone
vibration	Act of moving back and forth rapidly
virus	Pathogen consisting of nucleic acid enclosed in protein; only replicates in living cell
volcano	Vent in earth's crust from which molten rock, ash, and steam are ejected
volume	Three-dimensional measure; space that an object occupies

W

water cycle	Sequence through which water passes from vapor in the air through precipitation and back to atmosphere
wavelength	Distance between two successive crests or troughs
weather	Short term state of the atmosphere including temperature, humidity, precipitation, and wind
weathering	Process by which rock materials are broken down physically or chemically
weight	Measurement of the gravitational pull of the earth on an object

X

xylem	Tissue in vascular plants that provides support and conducts water and nutrients from the roots
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