

GLOSSARY

- acid** A substance that donates hydrogen ions, or accepts electrons, in a reaction. Acids taste sour and are usually very corrosive (destructive to metal or flesh). A strong acid has a pH below 1 on the pH scale. Some strong acids are nitric, sulfuric, and hydrochloric acids.
- active (volcano)** A volcano that is currently erupting, showing signs that it is likely to erupt in the near future, or has erupted in recorded history.
- advantage** A property that, in your opinion, is good.
- air** The mixture of gases found in Earth's atmosphere. Dry air is primarily nitrogen ($N_2 = 78\%$) and oxygen ($O_2 = 21\%$).
- altitude** The elevation above sea level.
- analysis (of experimental results)** Making connections between the results of an experiment and the idea or question being investigated.
- anemometer** An instrument used to measure wind speed.
- asteroid** An irregularly shaped rocky object that orbits the Sun. The largest known asteroid has a diameter of about 1,000 km. It is likely that asteroids are materials that never coalesced into a planet.
- astronomer** A scientist who studies objects and events beyond Earth's atmosphere, such as the composition and movement of stars and planets.
- astronomical unit** A unit of measurement equal to the distance between Earth and the Sun, approximately 150,000,000 km.
- astronomy** The study of objects and events beyond Earth's atmosphere.
- atmosphere** The gases that surround a planet or moon. On Earth, the air.
- atmospheric scientist** Scientist who studies the atmosphere.
- atom** The basic structural unit of matter, the smallest particle of an element that can enter into a chemical reaction.
- average** The central, or typical, value of a numerical data set. See *mean median*, and *mode*.
- axis** The imaginary line around which an object spins, or rotates. Earth rotates around an axis that runs straight through Earth from the North Pole to the South Pole.
- bar graph** A plot that uses a separate rectangular bar to represent each ordered pair in a set of ordered pairs. The relative size of each bar represents the relationship between the two values within each ordered pair.
- biologist** Scientist who studies living organisms and their components.
- breakwater** A rock structure parallel to the shore that is used to slow erosion by reducing wave energy hitting the shore.
- Celsius** Metric system scale for measuring temperature in which the freezing temperature of water is set at 0° and the boiling temperature of water is set at 100° .
- centimeter** Common SI unit used for measuring distance. $2.54 \text{ cm} = 1 \text{ inch}$.
- Cepheids** Stars that regularly brighten and dim.
- chemical** A substance. Chemicals are the components of all things that have mass.
- chemical change** A change in how atoms or molecules are bonded to each other, resulting in a new arrangement of atoms or molecules. A chemical change always results in the production of a substance or substances different from those you started with.
- chemical formula** A shorthand notation to describe elements, compounds, and their reactions. Each element is identified by one or two letters. For example, H represents hydrogen, Cl represents chlorine, and O represents oxygen. A compound is identified by its combination and proportion of elements. Water, for example, is represented by the chemical formula H_2O .

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- chemical property** A specific result of a test with a chemical substance. Chemical properties include pH, the production of a salt when an acid reacts with a metal, or a unique color change in a chemical reaction. See also *physical property*.
- clay** Sediments smaller than 0.002 mm.
- climate** The average weather for a place over a long period of time (usually at least 30 years).
- climatologist** Scientist who studies the earth's climates.
- cloud** A visible collection of water droplets in the atmosphere. Clouds usually form hundreds of meters above Earth's surface but fog is a cloud formed near Earth's surface.
- comet** A "dirty snowball" of ice and dust that orbits the Sun. Comets appear to have a fuzzy head and a long tail that streams away from the Sun.
- composition** What something is made of or its mix of ingredients. For example, the materials that make up a mixture such as soil. Composition can describe the kind and/or amount of different materials in a mixture.
- condense** To change from a gas to a liquid state.
- condensation** The process of change in state from gas to liquid, or the droplets of liquid formed from this process.
- consistence** The resistance of a soil to breaking apart. See *soil consistence*.
- constructive** A force or earth process that builds up earth material to create landforms.
- continental drift** A theory that the continents were attached together in the past, and have been drifting apart ever since. See *plate tectonics*.
- contour interval** The elevation difference represented by the difference between two adjacent contour lines on a topographical map.
- contour line** A line on a topographic map that indicates places of equal elevation.
- control** A control experiment or part of an experiment (noun). To ensure that all variables in an experiment are held constant except for the variable being tested (verb).
- control experiment** An experiment in which the subjects, chemicals, or objects involved in an experimental test are treated similarly in a parallel experiment but the procedure or agent being tested is omitted; used as a standard of comparison in judging experimental effects.
- controlled variable** A variable in an investigation or experiment that is held constant.
- convection current** A flow of material (such as magma in the earth's mantle) caused by a temperature difference.
- convergent boundary** A boundary between tectonic plates that are moving toward each other.
- core** The innermost area of earth's interior. See also *crust, mantle, and lithosphere*.
- correlation** A measure of association between two or more variables.
- crescent Moon** The phase of the Moon in which the lit portion of the Moon visible from Earth's surface is less than a half-circle (crescent shaped). Crescent moons occur right after and right before the new Moon.
- crust** The thin outermost "layer" of the earth. See also *core, mantle, and lithosphere*.
- crystal shape** The shape of a crystal sample of a mineral, generally referred to by mineralogists as crystal habit.
- crystalline structure** The regular pattern of atoms, molecules, or ions in a crystal.
- data** Information gathered from an experiment. Firsthand evidence from the five senses or from machines that extend our senses.
- decompose** To break down either by physical or chemical means.

delta A fan-shaped area that develops in the flat, low area where a river empties into a large body of water.

density The relationship between the mass and volume of a substance. The mass-per-unit volume, specifically grams per milliliter. Density equals mass divided by volume ($d = m/v$).

deposit Earth materials that have been left in a particular location as a result of an earth process that drops sediments that were previously suspended in air, water, or ice (noun). To leave material in a particular location (verb).

deposition The earth process that results in a deposit of earth materials.

destructive A force or earth process that breaks down or removes earth material.

diameter The measurement of the "width" of a circle found by measuring the distance from one side of the circle through the center to the other side.

disadvantage A property that, in your opinion, is not good.

dissolve To disperse particles of one substance, the solute, among the particles of a second substance, the solvent. For example, sugar dissolves in water.

divergent boundary A boundary between tectonic plates that are moving away from each other. Also called a spreading center.

dormant (volcano) A volcano that has not erupted for at least 10,000 years, but that scientists think may erupt again.

dredging Removing earth material from under water.

drought A long period of little or no precipitation, or precipitation far below normal levels.

Dust Bowl Name given to the plains of the central United States in the 1930s. A severe drought and poor agricultural practices created conditions whereby the wind blew away much of the topsoil, creating huge dust storms.

earth processes Dynamic actions that occur both on earth's surface and inside earth.

eclipse The phenomenon that occurs when an object in space moves directly between another object and the Sun, casting a shadow on the other object. A solar eclipse occurs when the Moon casts its shadow on Earth. A lunar eclipse occurs when the Earth casts its shadow on the Moon.

earthquake The release of energy in the form of waves that occurs when large masses of rock below earth's surface suddenly shift position.

ecologist Scientist who studies the interactions between organisms and their environment.

ecology The science that deals with the relationships between organisms and their environment.

element A collection of atoms of one type that cannot be decomposed into any simpler units by chemical means.

elevation The height of a location above sea level.

energy The ability to cause motion. Energy comes in many forms and is measured in joules.

engineer A professional who uses science to solve practical problems, make equipment, and build structures.

environmental impact The effect(s) of human actions or natural events on a given environment. For example, communities may add treated sewage to the ocean, changing the quality of the water and affecting the life found in the area where the sewage is discharged.

equator An imaginary circle that divides Earth into two halves called the Northern Hemisphere and Southern Hemisphere.

erode To remove earth materials from one place and transport them elsewhere, commonly by moving water or wind.

erosion The earth process by which earth materials are removed from one place and transported elsewhere.

eruption The release, sometimes violent, of magma from earth's interior to the surface.

evaporate To change from a liquid to a gaseous state.

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evaporation The process of change in state from a liquid to a gas.

evidence Information gained by direct observation or from reliable sources that can be used to formulate ideas about the natural world or to inform decision-making.

evolution Noncyclical changes that occur over a period of time.

exosphere The uppermost layer of the earth's atmosphere.

extinct (volcano) A volcano that scientists do not expect to erupt ever again.

extreme tide A tide that is unusually high or low. Extreme tides are associated with the new and full moons. Extreme tides occur when the Moon, Sun, and Earth are lined up and the combined gravitational pull of the Moon and Sun is the greatest. Extreme tides are commonly called spring tides.

fertilizer Material added to soil to increase its ability to grow plants.

first-quarter Moon The phase of the Moon, occurring about seven days after the new Moon, in which the lighted portion of the moon that is visible from Earth's surface is a half-circle.

flood A large amount of water that has overflowed from its source, such as a stream or river.

floodplain The relatively level area on either side of a river that becomes covered with water when the water level in the river rises above its banks and overflows.

fluorite A mineral that can form octahedral crystals.

force A push or a pull.

fossil fuel A fuel produced by living plant materials that have been buried and changed by heat and pressure under layers within the earth over millions of years of time. Natural gas, petroleum, and coal are examples of fossil fuels.

freeze, freezing To change from a liquid to a solid state.

friable Easily broken apart, crumbly.

front (warm or cold) A boundary where a mass of air meets another air mass of a different temperature.

full Moon The phase of the Moon that occurs about fourteen days after the new Moon in which the complete lighted portion of the Moon is visible from Earth's surface and appears as a full circle.

galaxy A group of billions of stars.

gas The state of matter that occurs when particles of matter are energetic enough to exhibit so little attraction to each other that they move about freely. Contrast with liquid and solid.

geological time Periods of thousands, millions, and billions of years referred to by geologists, paleontologists, and other scientists who study the earth's history.

geologist Scientist who studies the earth and the changes that take place on and beneath its surface.

gibbous Moon A phase of the Moon before or after it is full, when more than half of its disk is illuminated.

gravitational pull The pull on one object that results from the force of gravity acting between it and another object.

gravity The attractive force that occurs between any two objects. The strength of the gravitational force depends on the mass of each object and the distance between the objects. Greater mass produces more gravitational attraction; greater distance produces less gravitational attraction.

groundwater Water found beneath the earth's surface and contained in aquifers and in underground lakes and rivers.

Gulf Stream A strong ocean current that flows on the surface of the Atlantic Ocean from the Gulf of Mexico to northwestern Europe.

habitat The environment in which an organism lives.

hardness A property of objects, commonly measured on the Mohs scale, which rates hardness on a scale of 1 (talc) to 10 (diamond). All solid objects fall somewhere in between. Objects that have a higher Mohs rating can scratch items that have lower ratings.

hemisphere One half of a sphere. The half of Earth that is north of the equator is the Northern Hemisphere; the half of Earth that is south of the equator is the Southern Hemisphere

high tide The time when the tide reaches its highest level.

humidity The amount of water vapor in the air.

hurricane A severe tropical storm that has winds exceeding 110 kilometers per hour that rotate around a calm center.

hydrologist Scientist who studies the distribution and movement of water.

hypothesis A possible explanation of some phenomena, based on observations, and which suggests a means of being tested,

igneous rock Rocks that have formed from the cooling of magma.

indicator A substance that changes color in the presence of another chemical or group of chemicals. For example, universal indicator is an acid-base indicator that shows by color the pH of a substance.

inertia The tendency of an object to keep its state of motion. Moving objects will remain moving and nonmoving objects will not begin moving unless acted on by a force.

infer To conclude by reasoning from evidence. For example, if one sees a child running toward a school building in the morning as a bell rings, we can infer that the child is late for school. Contrast this with *interpret*.

interpolation Using known data to predict unknown data that lie within the range of the known data. For example, estimating an answer from a line graph for a point that lies between two plotted points.

interpret To explain, or give an account of facts, according to the explainer's understanding of their meaning. Contrast this with *infer*.

jetty A rock structure built perpendicular to the shore that prevents deposition in a particular area, such as a harbor.

kilogram (kg) A metric (SI) measurement of mass equal to 1,000 grams. 1 kg is equivalent to 2.2 pounds.

landform A feature of the earth's surface such as a lake, stream, valley, canyon, hill, ridge, or mountain.

last-quarter Moon The phase of the Moon that occurs about seven days after the full Moon in which the lighted portion of the Moon that is visible from Earth's surface is a half-circle.

latitude The distance in degrees of a location north or south of the equator.

lava Molten rock found on top of the earth's surface. See *magma*.

leap year A year on Earth that has one extra day (February 29). Every fourth year is a leap year.

line graph A plot of at least two ordered pairs that are then used to define a line representing the relationship between the two values within each ordered pair.

lithosphere The rigid upper portion of the earth that is broken into plates. It includes the crust and the uppermost portion of the mantle. See also *crust*, *core*, and *mantle*.

longshore current A stream of water in the ocean that runs parallel to the shore.

low tide The time when the tide reaches its lowest level.

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- lunar cycle** The revolution of the Moon around Earth that produces the changing phases of the Moon. One complete lunar cycle takes about 29.5 days.
- luster** The shininess of a mineral.
- magma** Molten rock found beneath the earth's surface. See *lava*.
- mantle** The "layer" of the earth between the outer crust and inner core. See also *crust*, *core*, and *lithosphere*.
- manufactured** Made by humans, typically in a factory. Synthetic.
- map key** Portion of a map that defines the meaning of any symbols used on the map.
- map scale** Portion of the map that shows the ratio of any distance measured on the map to the actual distance.
- mass** A measure of the material contained in an object. The mass of an object is determined by matching the object against known masses on a balance. Mass causes objects to have weight in a gravitational field.
- mean** A central value of a numerical data set calculated by adding up all the data points in the data set and dividing this sum by the total number of data points in the data set.
- median** The middle value in a data set arranged in numerical order.
- melt, melting** To change from a solid to liquid state.
- mesosphere** A layer of the earth's atmosphere where temperature decreases with altitude; between the stratosphere and thermosphere.
- metamorphic rock** A rock formed when another rock has been changed because of earth's heat and/or pressure.
- meteor** A piece of rock from space that burns upon entering Earth's atmosphere. Most burn up completely before reaching Earth's surface.
- meteorite** A piece of rock from space that reaches the surface of Earth.
- meteoroid** A small rocky or metallic object in orbit around the Sun. A meteoroid that strikes Earth is called a meteorite. When meteoroids about the size of sugar grains enter Earth's atmosphere, they burn up as meteors or "shooting stars."
- meteorologist** A scientist who studies the weather.
- metric system (SI)** The measuring system used by scientists and most countries other than the United States and United Kingdom.
- microgravity** The condition of near-weightlessness induced by freefall or unpowered spaceflight.
- milliliter** Common SI unit used for measuring volume. 946 mL = 1 quart.
- mineral** A naturally occurring (solid) material that has a specific chemical composition and crystal form and characteristic physical properties. Crystalline solids found naturally in the earth. There are about 3,500 different minerals.
- mode** The most frequently occurring data point of a numerical data set.
- model** Any representation of a system, or its components, to help one study and understand how it works.
- molecule** Two or more atoms tightly bonded together to form a neutral particle. May be a single element or a mixture of elements. Examples include H₂ and H₂O.
- moon** A natural satellite of a planet. Earth's moon is referred to as the Moon.
- moon phase** The shape of the lighted portion of the moon that is visible from Earth's surface.
- native** Occurring naturally in an environment, indigenous.
- natural resource** Any naturally occurring substance that is useful.
- new Moon** The phase of the Moon, occurring about 14 days after the full Moon, in which none of the lighted portion of the Moon is visible from Earth's surface.

- nonrenewable resource** Materials such as petroleum, coal, natural gas, and many minerals that cannot be easily or quickly replaced by natural systems. See also *renewable resource*.
- nuclear fusion** A nuclear reaction in which the nuclei of two smaller atoms combine to form a larger nucleus. See also *nuclear reaction*.
- nuclear reaction** A process in which the nuclei of atoms either split or combine, releasing a large amount of energy.
- nuclear waste** Radioactive material that must be disposed because it is not useful.
- nutrient** An essential element required by an organism to grow and reproduce.
- observation** Any description or measurement gathered by the senses.
- ocean current** Regular movements of large amounts of water in the ocean.
- opaque** Unable to transmit light.
- opinion** A personal belief, not necessarily supported by facts.
- orbit** To travel around another object in a circular or elliptical path (verb). The path an object follows as it revolves around another object (noun). See also *revolve*, *revolution*.
- orbital period** The amount of time it takes for an object to make one complete orbit or revolution around another object.
- organic material** Material from living or dead organisms.
- organic matter** Matter containing compounds that contain carbon atoms. In soil, decaying plants or animals provide a source of organic matter.
- organism** A living thing, capable of independent existence and characterized by organs or organ-like objects separate in function, but mutually dependent. Plants, animals, bacteria, and fungi are examples of organisms.
- paleontologist** A scientist who uses fossil evidence to study life in prehistoric times.
- Pangea or Pangaea** A single landmass, or supercontinent, that existed from about 350 million to 200 million years ago and was separated by plate tectonics, forming the current continents.
- particle** A small unit of matter such as a group of molecules, a single molecule, an ion, an atom, or a subatomic particle. All matter is made of particles that are in constant motion.
- percentage (%)** The proportion relative to one hundred. 30 out of 100 is 30 percent. 2 out of 50 is 40 percent.
- permeability** The degree to which something can penetrate or go through a material. See also *porosity*.
- phase** See *Moon phase*.
- phenomenon** An event related to how the world and universe work.
- physical property** A characteristic of a substance or material, such as color, density, flexibility, hardness. These properties help identify pure substances and never change, whether there is a large sample or very small sample of material. They are intrinsic properties. See also *chemical property*.
- piloted** A space mission in which people are aboard the spacecraft.
- planet** An object that orbits a star and is larger than an asteroid and smaller than a star.
- plate** A large section of the earth's surface. See *plate tectonics*.
- plate boundary** Where the edges of two (or more) tectonic plates meet. See *plates*, *plate tectonics*.
- plate tectonics** The theory that the rigid outer portion of the earth is broken into large separate sections, called tectonic plates, each moving at a specific speed in a specific direction. The movement of tectonic plates helps explain the occurrence of earthquakes, volcanoes, and many other geologic phenomena.

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- plausible** Consistent with evidence.
- pollute** To make inferior or impure, to make unfit for use by the introduction of unwholesome or undesirable elements.
- porosity** The amount of space in a solid material, literally pore spaces, openings, or channels. See also *permeability*.
- precipitation** The movement of water, in solid or liquid form, from the atmosphere back to the surface of the earth. Rain, snow, sleet, and hail are examples.
- pressure** A force applied to a surface. It is measured in a force unit per area, such as psi (pounds per square inch) or millibars (100 newtons per square meter).
- prevailing wind** The most common wind direction for a region. On the earth, the direction of the prevailing winds are related to the latitude of the region.
- property** The nature of a material, such as the physical qualities of color, hardness, state, density, and conductivity. See also *chemical property*, *physical property*.
- proportion** A relationship or ratio between two variables.
- range** The difference between the highest and lowest value in a data set.
- remote sensing** The collection of information from a distance.
- renewable** Able to be replenished.
- renewable resource** Materials such as water, plants, or animals that are naturally replenished by natural processes. See *nonrenewable resources*.
- reproducible** An investigation that can be repeated to give the same or similar results.
- revolution** A complete circle made by a planet around a sun or by a moon around a planet. See *orbit*, *revolve*.
- revolve** To travel around another object in a circular or elliptical path. See *orbit*, *revolution*.
- Richter scale** A scale used to quantitatively rate the magnitude of an earthquake. Each increase of 1 on the Richter scale is equal to a 30-fold increase in released energy.
- risk** The chance that a particular action or event could result in something unfavorable, such as injury or death.
- river channel** The depression in the land through which a river flows.
- rock** A naturally occurring solid substance composed of one or more minerals.
- rock cycle** The continual processes that form and break down rocks, often resulting in the formation of one rock type from another.
- rotate, rotation** To turn or spin around an axis.
- rotation period** The amount of time it takes for an object to make one complete rotation around its axis. This is the day length of a planet.
- runoff** Precipitation that reaches the surface of the earth and does not soak in, but rather moves across the surface until it reaches a "permanent" site of surface water, such as a stream, lake, or ocean.
- salinity** A measure of the amount of salt dissolved in water.
- sample size** The number of data points in a data set.
- sand** Sediments larger than 0.05 mm but smaller than 0.2 mm.
- satellite** Any object, natural or manufactured, that orbits another object.
- scale** The size of a diagram or model in proportion to the actual size of the object.
- seawall** A wall made of rock, concrete, or similar material built along a cliff or shoreline to reduce erosion.

- sediment** Small bits of decomposed earth materials such as rocks, minerals, and shells.
- sedimentary rock** A type of rock that is made up of sediments that have been cemented together, such as shale, sandstone, and limestone.
- seismogram** The information recorded by a seismograph.
- seismograph** An instrument that measures and records the intensity of an earthquake.
- shade** An unlit area caused by an object that blocks the light.
- shadow** The unlit area produced by an object that is blocking light.
- silt** Sediments that have a size between sand and clay, or from 0.002 to 0.05 mm.
- soil** The layers of unconsolidated material found at the earth's surface. Soil normally consists of weathered mineral particles, dead and living organic matter, air space, and associated moisture.
- soil color** The color of the soil as described by the Munsell System of Color Notation.
- soil composition** The materials that make up a sample of soil.
- soil consistence** A soil's resistance to breaking and manipulation under varying moisture conditions.
- soil stability** The ability of a soil to resist erosion.
- soil texture** Perhaps a soil's most permanent attribute determined by the mixture of particle sizes and the proportion of different sizes.
- soil type** Soils are named and classified on the basis of physical and chemical properties that are related to their natural environment. Common soil types include forest, grassland, desert, and tropical soils.
- solar** Having to do with the Sun.
- Solar System** The Sun and all the objects, including Earth, that orbit the Sun.
- solvent** A substance that dissolves other substances.
- space** The region and objects beyond Earth's atmosphere.
- spacecraft** Any vehicle, piloted or unpiloted, designed to travel beyond Earth's atmosphere.
- stability** The tendency of a landform to resist erosion or other change.
- star** A body of gas sufficiently compressed by its own gravity for nuclear fusion to take place. The nuclear fusion creates the light, heat, and other radiation associated with stars.
- stratosphere** The region of Earth's atmosphere between the troposphere and mesosphere.
- subduction zone** An area where one tectonic plate is being forced downward toward the earth's interior. This process causes the solid portions of the subducted plate to melt.
- substance** Commonly defined as anything that has mass and takes up space. In chemistry, the word substance generally refers to a pure element or compound.
- Sun** The medium-sized yellow star found at the center of the Solar System around which Earth and the other eight planets revolve.
- tectonic plate** A large section of the rigid outer portion of the earth that is moving at a specific speed in a specific direction.
- telescope** A device used to view (optical telescope) or otherwise obtain information (radio telescope) about distant objects.
- tested variable** A variable that is changed in a systematic way in an experiment in order to determine its effect.
- texture** Commonly refers to the feeling of a material on the skin. In the case of soil, texture is determined by the soil's proportion of different-sized particles. See *soil texture*.
- theory** A logically consistent explanation of some aspect of the natural world that is supported by a large body of evidence.

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thermosphere The region of the atmosphere above the mesosphere in which temperature steadily increases with altitude.

tide A periodic change in sea level that is caused by the rotation of Earth and the gravitational attraction between Earth and the Moon and Sun.

topographical map A map that uses contour lines to represent the elevation of land surfaces.

topographic feature A feature of the earth's surface such as a lake, stream, valley, canyon, hill, ridge, or mountain.

topography The shape of the land, or the collection of landforms, in an area.

tornado A violently rotating column of air that is in contact with the ground and a cloud layer. It is usually visible as a funnel cloud and may have winds up to 500 kilometers per hour.

toxic Poisonous; the capability of a substance to cause harm to living systems, either in terms of a single dose (acutely toxic) or a long-term series of doses (chronically toxic).

trade-off A balancing of factors, all of which are not attainable at the same time. Getting one thing at the cost of another. The trade-off is the aspect that is given up and can only be evaluated in the context of what it was exchanged for.

transform boundary A boundary between tectonic plates that are sliding next to each other. also called a strike-slip boundary.

translucent Transmitting light diffusely; semitransparent.

transparent Able to transmit light clearly so that an object can be distinctly seen through a substance.

troposphere The lowest layer of the earth's atmosphere, where people live and most weather occurs.

uncontrolled variable A variable in an experiment or investigation that the experimenter either ignores or is unable to hold constant.

universe Everything that exists in space, including the matter (objects) and energy it contains.

unpiloted A spacecraft that has no people aboard.

variable A quantity that may assume any number of possible values or meanings.

volcano A landform, often conical, made from igneous rocks that form when magma from below the earth's surface erupts on to the surface.

waning The phases of the Moon when the illuminated portion visible from Earth is decreasing (between the full and new Moon). See *waxing*.

water A molecular substance made of hydrogen and oxygen in a two-to-one ratio (H₂O). Water in the solid state is called ice, water vapor is called steam.

water cycle The movement of water from one state to another as it circulates through the earth's crust, oceans, and atmosphere. Water evaporates from the surface, rises and cools at higher elevations, condenses as rain or snow, and falls to the surface where it collects in lakes, oceans, soil, and rocks underground.

water storage capacity The amount of water that can be stored

water vapor Water in a gaseous state.

waxing The phases of the Moon when the illuminated portion visible from Earth is increasing (between the new and full Moon). See *waning*.

weather The condition of the atmosphere, including temperature, precipitation, and cloud cover, at a particular time and place.

weather forecast Meteorologist's prediction of the weather.

weathering The breakup of rock caused by mechanical or chemical processes.

weight The gravitational pull on a mass.

weightlessness The condition that occurs when there is near-zero gravity. It is experienced by all spacecraft and their occupants when in orbit or traveling through space at constant speed.

wetlands An area characterized by a high proportion of water and watery land, such as a swamp, marsh, or bog.

wind The horizontal movement of air from areas of higher pressure toward areas of lower pressure.

wind vane An instrument used to measure wind direction.

x-axis The horizontal axis of a graph.

y-axis The vertical axis of a graph.