A

8th Grade Science Glossary

Abrasion - Mechanical weathering in which rocks collide and scrape against each other, wearing away the exposed surfaces

Absolute Age - Actual age of an object

Absolute Magnitude - Brightness of a star as it would appear if located 32.6 light-years from the Earth

Acceleration - The rate at which velocity changes over time; an object accelerates if its speed, direction, or both change

Acid Rain - Precipitation that has a pH below normal and has an unusually high concentration of sulfuric or nitric acids, often as a result of chemical pollution of the air from sources such as automobile exhausts and the burning of fossil fuels

Activation Energy - The minimum amount of energy required to start a chemical reaction

Air Mass - Large body of air with uniform temperature and moisture content

Air Pressure - The measure of the force with which air molecules push on a surface

Air Resistance - A force that opposes the motion of objects that move through the air.

Alluvial Fan - Fan-shaped deposit of sediments at the base of a slope on land

Altitude - The height of an object above a reference point, such as sea level or the Earth's surface; in astronomy, the angle between an object in the sky and the horizon

Alto - Tall or high (referring to clouds)

Analysis - An investigation of the component parts of a whole and their relations in making up the whole

Anemometer - An instrument used to measure wind speed

Aneroid Barometer - An instrument that measures changes in air pressure without using a liquid

Anticyclone - Storm that spirals outward from a high-pressure center

Apparent Magnitude - The brightness of a star as seen from Earth

Aquifer - A body of rock or sediment that stores groundwater and allows the flow of groundwater

Artesian Spring - A spring whose water flows from a crack in the bed over the artesian aquifer

Asteroid - A small, rocky object that orbits the sun; most asteroids are located in a band between the orbits of Mars and Jupiter

Asthenosphere - The solid, plastic layer of the mantle beneath the lithosphere; made of mantle rock that flows very slowly, which allows tectonic plates to move on top of it

Astronomy - The scientific study of the universe

Atmosphere - A mixture of gases that surrounds a planet or moon

Atom - The smallest unit of an element that maintains the chemical properties of that element

Atomic Mass - The mass of an atom expressed in atomic mass units

Atomic Number - The number of protons in the nucleus of an atom; the atomic number is the same for all atoms of an element

Aurora Borealis (aurora) - Colored light produced by charged particles from the solar wind and from the magnetosphere that react with and excite the oxygen and nitrogen of Earth's upper atmosphere; usually seen in the sky near Earth's magnetic poles

Autumnal Equinox - The moment when the sun passes directly above the equator from north to south; day and night are of equal length on the day that the autumnal equinox occurs

Axis - An imaginary straight line running through the Earth from pole to pole

B

Balanced Force - The forces acting on an object that are equal in size and opposite in direction, canceling each other out

Barometer - An instrument that measures atmospheric pressure

Bedrock - The layer of rock beneath soil

Big Bang - The theory that all matter and energy in the universe was compressed into an extremely small volume that 13 billion to 15 billion years ago exploded and began expanding in all directions

C

Catalyst - A substance that changes the rate of a chemical reaction without being consumed or changed significantly

Cementation - The process in which minerals precipitate into pore spaces between sediment grains and bind sediments together to form rock

Chemical Bond - The attractive force that holds atoms or ions together

Chemical Change - A change that occurs when one or more substances change into entirely new substances with different properties

Chemical Energy - The energy released when a chemical compound reacts to produce new compounds

Chemical Equation - A representation of a chemical reaction that uses symbols to show the relationship between the reactants and the products

Chemical Formula - A combination of chemical symbols and numbers to represent a substance

Chemical Property - A property of matter that describes a substance's ability to participate in chemical reactions

Chemical Reaction	-	The process by which one or more substances change to produce one or more different substances
Chemical Rock	-	Sedimentary rock that forms when minerals that were dissolved in a solution crystallize
Chemical Weathering	-	The process by which rocks break down as a result of chemical reactions
Chromosphere	-	The thin layer of the sun that is just above the photosphere and that glows a reddish color during eclipses
Cirrus	-	A feathery cloud that is composed of ice crystals and that has the highest altitude of any cloud in the sky
Clastic Rock	-	Sedimentary rock that forms when fragments of preexisting rocks are compacted or cemented together
Cleavage	-	In geology, the tendency of a mineral to split along specific planes of weakness to form smooth, flat surfaces
Climate	-	The average weather conditions in an area over a long period of time
Comet	-	A small body of ice, rock, and cosmic dust that follows an elliptical orbit around the sun and that gives off gas and dust in the form of a tail as it passes close to the sun
Compactions	-	The process in which the volume and porosity of a sediment is decreased by the weight of overlying sediments as a result of burial beneath other sediments
Compound	-	A substance made up of atoms of two or more different elements joined by chemical bonds
Compression	-	In geology, a reduction in the volume of a substance due to pressure changes; occurs when something is pushed in
Condensation	-	The change of state from a gas to a liquid
Conduction	-	Type of energy transfer in which vibrating molecules pass heat along to other vibrating molecules by direct contact
Constructive	-	A superposition of two or more waves that produces a greater intensity than the sum of the intensities of the individual waves
Continental	-	Forming or belonging to a continent
Continental Drift	-	The hypothesis that states that the continents once formed a single landmass, broke up, and drifted to their present locations
Control	-	In an experiment, a group that serves as a standard of comparison with another group to which the control group is identical except for one factor
Convection	-	The movement of matter due to differences in density that are caused by temperature variations; can result in the transfer of energy as heat in a liquid or gas
Convection Currents	-	The vertical movement of air currents due to temperature variations

Convergent Boundary - The boundary between tectonic plates that are colliding

Core - The central part of the Earth below the mantle; also the center of the sun

Coriolis Effect - The curving of the path of a moving object from an otherwise straight path due to the Earth's rotation

Corona - The outermost layer of the sun's atmosphere

Corrosive - A substance having the tendency to cause corrosion, such as strong acids or alkali

Crater - A bowl-shaped depression that forms on the surface of an object when a falling body strikes the object's surface or when an explosion occurs; a similar depression around the central vent of a volcano or geyser

Crust - The thin and solid outermost layer of the Earth above the mantle

Crystal - A solid whose atoms, ions, or molecules are arranged in a regular, repeating pattern

Cumulus - A low-level, billowy cloud that commonly has a top that resembles cotton balls and a dark bottom

Cyclone - An area in the atmosphere that has lower pressure than the surrounding areas and has winds that spiral toward the center

D

Data - Any pieces of information acquired through observation or experimentation

Deconstructive - The interference of a crest and a trough that produces a wave with a smaller amplitude; energy cancels out

Deep Ocean Trench - A deep valley along the ocean floor beneath which oceanic crust slowly sinks toward the mantle

Delta - A fan-shaped mass of rock material deposited at the mouth of a stream; for example, deltas form where streams flow into the ocean at the edge of a continent

Density - The ratio of the mass of a substance to the volume of the substance; commonly expressed as grams per cubic centimeter for solids and liquids, and as grams per liter for gases

Deposition - The process in which material is laid down

Dew Point - At constant pressure and water vapor content, the temperature at which the rate of condensation equals the rate of evaporation

Differential Weathering - The process by which softer, less weather resistant rocks wear away at a faster rate than harder, more weather resistant rocks do

Dissolve - To cause a dry substance to pass into a liquid

Divergent Boundary - The boundary between two tectonic plates that are moving away from each other

Divide - The boundary between drainage areas that have streams that flow in opposite directions

E

Earthquake - A movement or trembling of the ground that is caused by a sudden release of energy when rocks along a fault move

Eclipse - An event in which the shadow of one celestial body falls on another

El Nino - The warm-water phase of the El Niño–Southern Oscillation; a periodic occurrence in the eastern Pacific Ocean in which the surface-water temperature becomes unusually warm

Electromagnetic Wave - A wave that consists of oscillating electric and magnetic fields, which radiate outward at the speed of light

Electron - A subatomic particle that has a negative charge

Electron Cloud - A region around the nucleus of an atom where electrons are likely to be found

Element - A substance that cannot be separated or broken down into simpler substances by chemical means; all atoms of an element have the same atomic number

Ellipse - A closed curve in which the sum of the distances from any point on the curve to two fixed points inside the curve, called foci, equals the sum of the distances from any other point on the curve to the same two fixed points

Elliptical Galaxy - A type of galaxy that has an elliptical appearance

Endothermic Reaction - A chemical reaction that requires heat

Energy - The capacity to do work

Energy Conversion - A change from one form of energy to another

Eon - A unit of time equal to 1 billion years

Epoch - A subdivision of geologic time that is longer than an age but shorter than a period

Equinox - The moment when the sun appears to cross the celestial equator

Era - A unit of geologic time that includes two or more periods

Erosion - A process in which the materials of Earth's surface are loosened, dissolved, or worn away and transported from one place to another by a natural agent, such as wind, water, ice, or gravity

Evaporation - The change of state from a liquid to a gas

Exosphere - The outermost region of a planet's atmosphere in which the density is low enough that the lighter atmospheric atoms can escape into space

Exothermic Reaction - A chemical reaction in which heat is released to the surroundings

Experiment - A procedure that is carried out under controlled conditions to discover,

demonstrate, or test a fact, theory, or general truth

Explosive - A reactive substance that contains a great amount of potential energy that can produce an explosion if released suddenly

Extrusive Rock - Rock that forms from the cooling and solidification of lava at Earth's surface

F

Fault - A break in a body of rock along which one block slides relative to another; a form of brittle strain

Flammable - Easily ignited and capable of burning rapidly

Floodplain - An area along a river that forms from sediments deposited when the river overflows its banks

Fluorescence - The absorption of energy by atoms, molecules, and other particles, followed by the immediate emission of visible electromagnetic radiation as the particles move to lower energy states

Foliated Rock - Describes the texture of metamorphic rock in which the mineral grains are arranged in planes or bands

Force - An action exerted on a body in order to change the body's state of rest or motion; force has magnitude and direction

Fracture - In geology, a break in a rock, which results from stress, with or without displacement, including cracks, joints, and faults; also the manner in which a mineral breaks along either curved or irregular surfaces

Friction - A force that opposes motion between two surfaces that are in contact

Front - The boundary between air masses of different densities and usually different temperatures

G

Gas - A form of matter that does not have a definite volume or shape

Gas Giant - A planet that has a deep, massive atmosphere, such as Jupiter, Saturn, Uranus, or Neptune

Geocentric - Describes something that uses the Earth as the reference point

Geologic Column - An ordered arrangement of rock layers that is based on the relative ages of the rocks and in which the oldest rocks are at the bottom

Geologic Time Scale - The standard method used to divide the Earth's long natural history into manageable parts

Geologist - A scientist who studies the forces that make and shape planet Earth

Global Winds - Winds that blow steadily from specific directions over long distances

Graduated Cylinder - A piece of laboratory equipment used to accurately measure the volume of a liquid

Grain - The direction or texture of fibers found in wood or leather or stone or in a woven fabric

Gravity - A force of attraction between objects that is due to their masses and that decreases as the distance between the objects increases

Greenhouse Effect - The warming of the surface and lower atmosphere of Earth that occurs when carbon dioxide, water vapor, and other gases in the air absorb and reradiate infrared radiation

Group - A vertical column of elements in the periodic table; elements in a group share chemical properties

H

Half Life - The time required for half of a sample of a radioactive isotope to break down by radioactive decay to form a daughter isotope

Harmful - Tending to cause great harm

Heat Energy - The energy transferred between objects that are at different temperatures; energy is always transferred from higher-temperature objects to lower-temperature objects until thermal equilibrium is reached

Heliocentric - Sun-centered

Hot Spot - A volcanically active area of Earth's surface, commonly far from a tectonic plate boundary

Humus - Dark, organic material formed in soil from the decayed remains of plants and animals

Hurricane - A severe storm that develops over tropical oceans and whose strong winds of more than 120 km/h spiral in toward the intensely low-pressure storm center

Hypothesis - A testable idea or explanation that leads to scientific investigation

I

Ice Age - A long period of climatic cooling during which the continents are glaciated repeatedly

Igneous - Rock that forms when magma cools and solidifies

Index Fossil - A fossil that is used to establish the age of a rock layer because the fossil is distinct, abundant, and widespread and the species that formed that fossil existed for only a short span of geologic time

Inertia - The tendency of an object to resist being moved or, if the object is moving, to resist a change in speed or direction until an outside force acts on the object

Infrared Radiation - Electromagnetic radiation with wavelengths longer than visible light but shorter than radio waves

Inhibitor - A substance that slows down or stops a chemical reaction

Inner Core - The solid, dense center of the Earth

Inorganic - Describes something that is not made up of living organisms or the remains of living organisms

Intrusive Rock - Rock formed from the cooling and solidification of magma beneath the Earth's surface

Ionosphere - A region of the atmosphere that is above about 80 km and in which the air is ionized by solar radiation

Irregular Galaxy - A small galaxy that has no identifiable shape and that contains a great amount of dust and gas

Irritant - A mechanical, chemical or pathological agent that causes inflammation, pain, or tension

J

Jet Stream - A narrow band of strong winds that blow in the upper troposphere

Joule - The unit used to express energy; equivalent to the amount of work done by a force of 1 N acting through a distance of 1 m in the direction of the force (symbol, J)

K

Kinetic Energy - The energy of an object that is due to the object's motion

L

Land Breeze - The movement of air from land to sea at night, created when cooler, denser air from the land forces up warmer air over the sea

Latitude - The distance north or south from the equator; expressed in degrees

Lava - Magma that flows onto Earth’s surface; the rock that forms when lava cools and solidifies

Law of Conservation of Energy - The law that states that energy cannot be created or destroyed but can be changed from one form to another

Law of Conservation of Mass - The law that states that mass cannot be created or destroyed in ordinary chemical and physical changes

Law of Superposition - The principle that a sedimentary rock layer is older than the layers above it and younger than the layers below it if the layers are not disturbed

Leaching - The removal of soluble substances from rock, ore, or layers of soil due to the passing of water

Lightning - An electric discharge that takes place between two oppositely charged surfaces, such as between a cloud and the ground, between two clouds, or between two parts of the same cloud

Liquid - The state of matter that has a definite volume but not a definite shape

Lithosphere - The solid, outer layer of Earth that consists of the crust and the rigid upper part of the mantle

Load - The materials carried by a stream; the mass of rock overlying a geological structure

Loam - A soil composed of a mixture of sand, silt, clay and organic matter (humus)

Local Wind - The winds dependent upon local changes in temperature

Lunar Eclipse - The passing of the moon through the Earth's shadow at full moon

Luster - The way in which a mineral reflects light

M

Magma - Liquid rock produced under the Earth's surface; igneous rocks are made of magma

Manipulated Variable - In an experiment, a variable that is changed for a particular effect

Mantle - In Earth science, the layer of rock between Earth's crust and core

Maria - Large, dark areas of basalt on the moon (singular, mare)

Maritime - Bordering on or living or characteristic of those near the sea

Mass - A measure of the amount of matter in an object; a fundamental property of an object that is not affected by the forces that act on the object, such as the gravitational force

Matter - Anything that has mass and takes up space

Mechanical Energy - The amount of work an object can do because of the object's kinetic and potential energies

Mechanical Weathering - The process by which rocks break down into smaller pieces by physical means

Meniscus - The curve at a liquid's surface by which one measures the volume of the liquid

Mesosphere - Literally, the "middle sphere"; the strong, lower part of the mantle between the asthenosphere and the outer core

Metamorphic Rock - A rock that forms from other rocks as a result of intense heat, pressure, or chemical processes

Meteor - A bright streak of light that results when a meteoroid burns up in Earth's atmosphere

Meteorite - A meteoroid that reaches the Earth's surface without burning up completely

Meteoroid - A relatively small, rocky body that travels through space

Meteorologist - A specialist who studies processes in the earth’s atmosphere that cause weather conditions

Microclimate - The climate of a small area

Mid-Ocean Ridge - A long, undersea mountain chain that has a steep, narrow valley at its center, that forms as magma rises from the asthenosphere, and that creates new oceanic lithosphere (sea floor) as tectonic plates move apart

Mineral - A natural, usually inorganic solid that has a characteristic chemical composition, an orderly internal structure, and a characteristic set of physical properties

Mixture - A combination of two or more substances that are not chemically combined

Mohs Hardness Scale - The standard scale against which the hardness of minerals is rated

Moment Magnitude Scale - A scale that rates earthquakes by estimating the total energy released by an earthquake

Momentum - A quantity defined as the product of the mass and velocity of an object

Motion - An object's change in position relative to a reference point

N

Neap Tide - A tide of minimum range that occurs during the first and third quarters of the moon

Net Force - A single force whose external effects on a rigid body are the same as the effects of several actual forces acting on the body

Neutron - A subatomic particle that has no charge and that is located in the nucleus of an atom

Newton - The SI unit for force; the force that will increase the speed of a 1 kg mass by 1 m/s each second that the force is applied (symbol, N)

Nimbo - Dark rain clouds

Nonrenewable Energy - Energy sources that exist in a limited amount on Earth, thus all available material could eventually be completely used up

Nuclear Energy - The energy released by a fission or fusion reaction; the binding energy of the atomic nucleus

Nuclear Fusion - Combination of the nuclei of small atoms to form a larger nucleus

Nucleus - In physical science, an atom's central region, which is made up of protons and neutrons

O

Occluded - A front that forms when a warm air mass is cut off from the ground by two cooler air masses beneath it

Orbit - The path that a body follows as it travels around another body in space

Organic Rock - Sedimentary rock that forms from the remains of plants or animals

Outer Core - The liquid layer of the Earth's core that lies beneath the mantle and surrounds the inner core

Oxidizing - A reaction that removes one or more electrons from a substance such that the substance's valence or oxidation state increases; in geology, the process by which a metallic element combines with oxygen

Ozone - A gas molecule that is made up of three oxygen atoms

P

P Waves - A primary wave, or compression wave; a seismic wave that causes particles of rock to move in a back-and-forth direction parallel to the direction in which the wave is traveling; P waves are the fastest seismic waves and can travel through solids, liquids, and gases

Pangaea - Single landmass thought to have been the origin of all continents

Parent Rock - A rock formation that is the source of soil

Penumbra - Outer part of the shadow cast by the Earth or the moon in which sunlight is only partially blocked

Period - In geology, a unit of geologic time that is longer than an epoch but shorter than an era

Period - In chemistry, a horizontal row of elements in the periodic table

Periodic Law - The law that states that the repeating chemical and physical properties of elements change periodically with the atomic numbers of the elements

Periodic Table - An arrangement of the elements in order of their atomic numbers such that elements with similar properties fall in the same column, or group

Permafrost - A layer of permanently frozen subsoil in the tundra

Permeability - The ease with which water flows through the open spaces in a rock or sediment

Phase - In astronomy, the change in the illuminated area of one celestial body as seen from another celestial body; phases of the moon are caused by the changing positions of the Earth, the sun, and the moon

Photosphere - Innermost layer of the solar atmosphere; light sphere

Physical Change - A change of matter from one form to another without a change in chemical properties

Physical Property - A characteristic of a substance that does not involve a chemical change, such as density, color, or hardness

Plasma - In physical science, a state of matter that starts as a gas and then becomes ionized; it consists of free-moving ions and electrons, it takes on an electric charge, and its properties differ from those of a solid, liquid, or gas

Plate - A rigid layer of the Earth's crust that is believed to drift slowly

Plate Tectonics - The theory that explains how large pieces of the lithosphere, called plates, move and change shape

Polar - A climate that is characterized by average temperatures that are near or below freezing; typical of polar regions

Polar Zone - The North or South Pole and the surrounding region

Porphyritic Texture - An igneous rock texture in which large crystals are embedded in a fine crystalline matrix

Potential Energy - The energy that an object has because of the position, shape, or condition of the object

Prediction - A statement made in advance that expresses the results that will be obtained from testing a hypothesis if the hypothesis is supported; the expected outcome if a hypothesis is accurate

Pressure - The amount of force exerted per unit area of a surface

Procedure - A process or series of acts especially of a practical or mechanical nature involved in a particular form of work

Product - A substance that forms in a chemical reaction

Prominence - A loop of relatively cool, incandescent gas that extends above the photosphere and above the sun's edge as seen from Earth

Proton - A subatomic particle that has a positive charge and that is located in the nucleus of an atom; the number of protons in the nucleus is the atomic number, which determines the identity of an element

Psychrometer - An instrument that is used to measure the moisture content of the atmosphere

Pure Substance - A sample of matter, either a single element or a single compound, that has definite chemical and physical properties

Pyroclastic Flow - The expulsion of ash, cinders, bombs, and gases during an explosive volcanic eruption

Q

R

Radiation - The energy that is transferred as electromagnetic waves, such as visible light and infrared waves

Radioactive - Refers to the particles that are emitted from nuclei as a result of nuclear instability

Radioactive Decay - The disintegration of an unstable atomic nucleus into one or more different nuclides, accompanied by the emission of radiation, the nuclear capture or ejection of electrons, or fission

Radiometric Dating - A method of determining the absolute age of an object by comparing the relative percentages of a radioactive (parent) isotope and a stable

(daughter) isotope

Reactant - A substance or molecule that participates in a chemical reaction

Recharge Zone - An area in which water travels downward to become part of an aquifer

Relative Age - The age of an object in relation to the ages of other objects

Relative Humidity - The ratio of the amount of water vapor in the air to the amount of water vapor needed to reach saturation at a given temperature

Renewable Energy - Energy from sources that are constantly being formed

Responding Variable - A kind of variable in an experiment that could change as a result of a change in the manipulated variable

Retrograde Rotation - The clockwise spin of a planet or moon as seen from above the planet's North Pole

Revolution - The motion of a body that travels around another body in space; one complete trip along an orbit

Richter Scale - A scale that expresses the magnitude of an earthquake

Rift Valley - A long, narrow valley that forms as tectonic plates separate; located in Africa

Rotation - The spin of a body on its axis

S

S Waves - A secondary wave, or shear wave; a seismic wave that causes particles of rock to move in a side-to-side direction perpendicular to the direction in which the wave is traveling; S waves are the second-fastest seismic waves and can travel only through solids

Safety - Freedom from harm or danger

Scattering - A process in which a particle (such as an electron, photon, or neutron) collides with a material and changes energy and direction

Sea Breeze - The movement of air from sea to land during the day when cooler air from above the water moves over the land, forcing the heated, less dense air above the land to rise.

Sea-floor spreading - The process by which new oceanic lithosphere (sea floor) forms as magma rises to Earth's surface and solidifies at a mid-ocean ridge

Sedimentary Rock - A rock that forms from compressed or cemented layers of sediment

Seismic Waves - A vibration in rock that travels out from the focus of an earthquake in all directions; seismic waves can also be caused by explosions

Seismograph - An instrument that records vibrations in the ground

Shearing - Stress that pushes masses of rock in opposite directions, in a sideways movement

Soil - A loose mixture of rock fragments and organic material that can support the growth of vegetation

Soil Conservation - A method to maintain the fertility of the soil by protecting the soil from erosion and chemical decay

Soil Structure - The arrangement of soil particles

Soil Texture - The soil quality that is based on the proportions of soil particles

Solar Eclipse - The passing of the moon between Earth and the sun; during a solar eclipse, the shadow of the moon falls on Earth

Solar Flare - An explosive release of energy that comes from the sun and that is associated with magnetic disturbances on the sun's surface

Solar Wind - The movement of electrically charged atomic particles, mostly helium and hydrogen, from the sun through the solar system

Solid - The state of matter in which the volume and shape of a substance are fixed

Solstice - The point at which the sun is as far north or as far south of the equator as possible

Solubility - The ability of one substance to dissolve in another at a given temperature and pressure; expressed in terms of the amount of solute that will dissolve in a given amount of solvent to produce a saturated solution

Solute - In a solution, the substance that dissolves in the solvent

Solution - A homogeneous mixture throughout which two or more substances are uniformly dispersed

Solvent - In a solution, the substance in which the solute dissolves

Sonar - Sound navigation and ranging, a system that uses acoustic signals and returned echoes to determine the location of objects or to communicate

Sound Waves - A longitudinal wave that is caused by vibrations and that travels through a material medium

Source of Error - Part of the conclusion that tells what went wrong and how it can be changed to make the data more accurate next time. This is a critical part of a conclusion.

Speed - A measure of the distance an object moves in a given amount of time

Spiral Galaxy - A galaxy that consists of a nucleus of older stars and a disk with spiral arms made mainly of dust, gas, and young stars

Spring Tide - A tide of increased range that occurs two times a month, at the new and full moons

Storm - A violent weather condition with winds 64-72 knots (11 on the Beaufort scale) and precipitation and thunder and lightening

Stratosphere - The layer of the atmosphere that lies between the troposphere and the mesosphere and in which temperature increases as altitude increases; contains the ozone layer

Stratus - A gray cloud that has a flat, uniform base and that commonly forms at

low altitudes

Streak - The color of a mineral in powdered form

Subduction - The process by which one lithospheric plate moves beneath another as a result of tectonic forces

Sublimation - The process in which a solid changes directly into a gas (the term is sometimes also used for the reverse process)

Sunspot - A dark area of the photosphere of the sun that is cooler than the surrounding areas and that has a strong magnetic field

Surface Waves - In geology, a seismic wave that travels along the surface of a medium and that has a stronger effect near the surface of the medium than it has in the interior

T

Tare (zero) - The weight of the empty container used to weigh an object/liquid

Temperate Zone - The climate zone between the Tropics and the polar zone

Tension - In geology, a reduction in the volume of a substance due to pressure changes; occurs when something is stretched

Terminal Velocity - The constant velocity of a falling object when the force of air resistance is equal in magnitude and opposite in direction to the force of gravity

Terrestrial Planet - One of the highly dense planets nearest to the sun; Mercury, Venus, Mars, and Earth

Texture - The sizes, shapes, and positions of the grains that make up a rock

Thermal Pollution - A temperature increase in a body of water that is caused by human activity and that has a harmful effect on water quality and on the ability of that body of water to support life

Thermosphere - The uppermost layer of the atmosphere, in which temperature increases as altitude increases; includes the ionosphere

Tide - The periodic rise and fall of the water level in the oceans and other large bodies of water

Tornado - A destructive, rotating column of air that has very high wind speeds and that may be visible as a funnel-shaped cloud

Toxic - Containing or producing a poisonous substance that may be harmful or deadly

Transform - The boundary between tectonic plates that are sliding past each other horizontally; they moving in opposite directions

Tributary - A stream that flows into a lake or into a larger stream

Triple Beam Balance - A weighing instrument, named for the three beams which carry weights

Tropical - A climate characterized by high temperatures and heavy precipitation during at least part of the year; typical of equatorial regions

Tropical Zone - The region that surrounds the equator and that extends from about 23º

north latitude to 23º south latitude

Troposphere - The lowest layer of the atmosphere, in which temperature drops at a constant rate as altitude increases; the part of the atmosphere where weather conditions exist

Tundra - A treeless plain that is located in the Arctic or Antarctic and that is characterized by very low winter temperatures; short, cool summers; and vegetation that consists of grasses, lichens, and perennial herbs

U

Ultraviolet Radiation - A type of energy that comes to Earth from the Sun, can damage skin and cause cancer, and is mostly absorbed by the ozone layer

Umbra - A shadow that blocks sunlight, such as the conical section in the shadow of the Earth or the moon

Unbalanced Force - Forces that are not equal; results in movement

Unconformity - A break in the geologic record created when rock layers are eroded or when sediment is not deposited for a long period of time

V

Vacuum - A space entirely devoid of matter

Valence Electron - An electron that is found in the outermost shell of an atom and that determines the atom's chemical properties

Variables - A factor that changes in an experiment in order to test a hypothesis

Velocity - The speed of an object in a particular direction

Vernal Equinox - The moment when the sun passes directly above the equator from south to north; day and night are of equal length on the day that the vernal equinox occurs

Volcano - A vent or fissure in the Earth's surface through which magma and gases are expelled

W

Wafting - To smell indirectly by waving the odor toward your nose

Water Cycle - The continuous movement of water between the atmosphere, the land, and the oceans

Water Displacement - When an object is put into water and the water level rises. This happens because the object takes up space and the water has to move somewhere, and the only place to go is up

Water Table - The upper surface of underground water; the upper boundary of the zone of saturation

Water Vapor - Water in the form of a gas

Watershed - The area of land that is drained by a river system

Weather - The short-term state of the atmosphere, including temperature, humidity, precipitation, wind, and visibility

Weathering - The natural process by which atmospheric and environmental agents, such as wind, rain, and temperature changes, disintegrate and decompose rocks

Weight - A measure of the gravitational force exerted on an object; its value can change with the location of the object in the universe

Wind - The movement of air caused by differences in air pressure

X

Y

Z