

Science Vocabulary 6th, 7th, and 8th Grade

Bold verbs are not on Kilgo's list, they are in the TEKS. **Blue** verbs are new.

VERB	DEFINITION	REFERENCE / EXAMPLE
activate	to make active; cause to function or act	
analyze	To examine methodically by separating into parts and studying their interrelations; make a mathematical, chemical, or grammatical analysis of; break down into components or essential features; to examine carefully and in detail so as to identify causes, key factors, possible results, etc...	
apply	to make use of as relevant, suitable, or pertinent: <i>to apply a theory to a problem</i> . To use for or assign to a specific purpose	
ask	to put a question to; to seek and answer	
Build	1 : to form by ordering and uniting materials by gradual means into a composite whole :	
calculate	to determine or ascertain by mathematical methods; compute; to determine by reasoning, common sense, or practical experience; estimate; evaluate; gauge	
categorize	to arrange in categories or classes: classify to describe by labeling or giving name to; characterize.	
Choose	to select according to preference especially after consideration; decide; prefer; to see fit, incline; to make a choice.	

VERB	DEFINITION	REFERENCE / EXAMPLE
classify	to arrange or organize according to class or category	
collect	to bring together in a group or mass; gather	
Combine	to bring into close relationship: unify; to unit or cause to unite into a chemical compound; to cause to mix together, blend; to become one; to act together	
communicate	to impart knowledge of; make known	
compare	To examine (two or more objects, ideas, etc.) in order to note similarities and differences to consider or describe as similar, equal, analogous; liken	construct an equilateral triangle
Conclude	to bring or come to an end; to form an opinion; decide by reasoning that an statement is true; to bring about as a result	
Conduct	The act, manner or process of carrying on	
Connect	to join or link together directly or by something coming between; to be related (as by cause or logic)	

VERB	DEFINITION	REFERENCE / EXAMPLE
Conserve	to keep in a safe or sound state; to maintain constant during a process of chemical, physical or evolutionary change	
contrast	compare or appraise in respect to differences	verb
construct	draw with suitable instruments and under specific conditions;	
Create	to bring into existence; to bring about: cause, make, produce	
critique	CRITICIZE / to examine and judge as a critic: evaluate; to express criticism especially of an unfavorable kind; to find fault or find fault with	
demonstrate	prove, establish the validity of something to describe, explain, or illustrate by examples, experiments, or the like	
describe	To give an account of in words; to tell in words what something or someone is like	
design	1 : to create, fashion, execute, or construct according to plan : 2 a : to conceive and plan out in the mind b : to have as a purpose : intend c : to devise for a specific function or end	

VERB	DEFINITION	REFERENCE / EXAMPLE
diagram	1 : a graphic design that explains rather than represents; especially : a drawing that shows arrangement and relations (as of parts)	
determine	: to settle or decide by choice of alternatives or possibilities	
develop	to elaborate or expand in detail	
differentiate	to constitute the distinction between	
dispose	b (1) : to get rid of <how to dispose of toxic waste	
Discuss	to investigate or consider carefully by reasoning or argument; to talk about	
distinguish	to divide into classes; classify to recognize as distinct or different; recognize the salient or individual features or characteristics of	
draw	to sketch (someone or something) in lines or words; delineate; depict; to frame or formulate: to draw a distinction or conclusion	
evaluate	to ascertain or fix the value or worth of; to examine and judge carefully; appraise; to calculate the numerical value of; express numerically	
examine	to inspect or scrutinize carefully; review	

VERB	DEFINITION	REFERENCE / EXAMPLE
explain	to make plain or clear; render understandable or intelligible; to make known in detail	
explore	to look into closely; scrutinize; examine	
express	to represent by a symbol, character, figure, or formula: <i>to express water as H₂O.</i>	
experiment	c : an operation or procedure carried out under controlled conditions in order to discover an unknown effect or law, to test or establish a hypothesis, or to illustrate a known law	
extrapolate	to infer or infer facts and data from known facts and data	
formulate	to state as or reduce to a formula; to express in systematic terms or concepts	
Gather	to come together in body; to bring together: collect; pick: to pick up little by little; to accumulate and place in order or readiness	
generate	to bring into existence; cause to be; produce	
give	to impart or communicate	
graph	to draw (a curve) as representing a given function to represent by means of a graph.	
Group	two or more figures forming a complete unit; number of individual assembled together or having common interests; a number of objects regarded as a unit; an assemblage of related organisms	

VERB	DEFINITION	REFERENCE / EXAMPLE
identify	to recognize to establish as being a particular person or thing; verify the identity of	
illustrate	to make clear or intelligible, as by examples or analogies; exemplify	
Include	2 : to take in or comprise as a part of a whole or group	
Influence	4 : the power or capacity of causing an effect in indirect or intangible ways :	
implement	to put into practical effect; carry out	
infer	to derive by reasoning; conclude or judge from premises or evidence	
interpret	to give or provide the meaning of; explain; explicate; elucidate to conceive the significance of; construe	
investigate	to observe or inquire into in detail; examine systematically	
Justify	to prove or show to be just right or reasonable: vindicate; to show a sufficient lawful reason for an act done	
make	to produce; cause to exist or happen; bring about; to draw a conclusion as to the significance or nature of; to judge or interpret, as to the truth, nature, meaning, etc.	
manipulate	To treat or operate with the hands or by mechanical means especially with skill; to manage or utilize skillfully	

VERB	DEFINITION	REFERENCE / EXAMPLE
measure	to ascertain the extent, dimensions, quantity, capacity, etc., especially by comparison with a standard; to mark, lay out, or establish dimensions for by measuring	
model	to plan, construct, or fashion according to a model; to make conform to a chosen standard	
name	to identify, specify, or mention by name	
observe	to regard with attention, esp. so as to see or learn something	
organize	to arrange in a coherent form; systematize; to arrange in a desired pattern or structure	
perform	to carry out; execute; do to go through or execute in the proper, customary, or established manner	
plan	to formulate a scheme or program for the accomplishment, enactment, or attainment of	
Practice	2 a : to perform or work at repeatedly so as to become proficient	
predict	to state, tell about, or make known in advance, especially on the basis of special knowledge	

VERB	DEFINITION	REFERENCE / EXAMPLE
Provide	to take precautionary measures to include as a condition: stipulate to the supply what is needed for sustenance or support; outfit, equip	
recognize	to indentify as something previously seen, known, etc.; to identify from knowledge of appearance or characteristics	
record	to set down in writing or the like, as for the purpose of preserving evidence	
recycle	1 : to pass again through a series of changes or treatments: as a : to process (as liquid body waste, glass, or cans) in order to regain material for human use	
relate	to tell; give and account of, or describe in some detail	
respond	2 a : to react in response b : to show favorable reaction	
reuse	: to use again especially in a different way or after reclaiming or reprocessing	
Replicate	one of several identical experiments, procedures, or samples	
represent	to express or designate by some term, character, symbol, or the like	

VERB	DEFINITION	REFERENCE / EXAMPLE
research	careful or diligent search; studious inquiry or examination; investigation or experimentation aimed at the discovery and interpretation of facts; to investigate thoroughly	
review	to look over, study, or examine again; critique	
select	to choose in preference to another or others; pick out	
Sort	To put in a certain place or rank according to kind, class, or nature: classify	
summarize	to make a summary of ; state or express in a concise form	
test	to administer or conduct a test; experiment	
Transfer	to convey from one person, place, or situation to another; to cause to pass from one to another; to move to a different place, region, or situation	
Transform	1 a : to change in composition or structure b : to change the outward form or appearance of c : to change in character or condition : convert	
understand	to perceive the meaning of; grasp the idea of; comprehend; to have understanding, knowledge, or comprehension	

VERB	DEFINITION	REFERENCE / EXAMPLE
use	to employ for some purpose; put into service; make use of	
Verify	to ascertain the truth or correctness of, as by examination, research, or comparison	
write	1 a : to form (as characters or symbols) on a surface with an instrument (as a pen) 2 : to set down in writing	

6.5 Matter and energy. The student knows the differences between elements and compounds

matter	Anything that has mass and take up space.	
energy	The ability to do work or cause change.	
elements	The simplest form of matter that can not be broken down by ordinary chemical means.	Represent on the Periodic Table of Elements
compounds	A substance produced when one or more substances are combined chemically in a specific ratio.	Water - H ₂ O
chemical change	A change in matter that produces a new substance.	
physical change	A change that alters the form or appearance of a substance but does not make the material into another substance.	souring of milk, burning wood, car battery chopping wood, molding clay
precipitate	3 a : to cause to separate from solution or suspension b : to cause (vapor) to condense and fall or deposit	

6.6 Matter and energy. The student knows matter has physical properties that can be used for classification.

metals	Can be classified based on physical properties (such as hardness, shininess, ease of malleability and ductility)	
nonmetals	An element that lacks most of the properties of metals.	
metalloids	An element that has some of the characteristics of metals and some of the characteristics of nonmetals.	
physical properties	A characteristic of a substance that can be observed without changing the substance into something else.	
conductivity	Transfer of energy.	
malleability	1 : capable of being extended or shaped by beating with a hammer or by the pressure of rollers	
mineral	A naturally occurring, inorganic solid with a definite chemical composition and crystal pattern.	
hardness	The ability of a mineral to resist being scratched.	Mohs Hardness Scale
color	A physical property used to identify minerals.	
luster	The way a mineral reflects light from its surface.	metallic, nonmetallic, glassy pearly, silky, earthy
streak	The color of the powder left behind when a mineral is rubbed against a rough surface.	hematite-rusty red streak
density	The measure of how much mass is contained in a given volume.	$D = M/V$

6.7 Matter and energy. The student knows that some of Earth's energy resources are available on a nearly perpetual basis, while others can be renewed over a relatively short period of time. Some energy resources, once depleted, are essentially nonrenewable.

renewable	A resource that is replaced naturally in a relatively short time.	
nonrenewable	A resource that is not replaced as used.	Fossil Fuels coal, oil, natural gas CONG
coal	A fossil fuel made from the remains of plants.	Nonrenewable The most abundant in the US
oil	Is a thick, black, liquid fossil fuel formed from the remains of small animals, algae, and protists that lived in the oceans shallow inland seas hundreds of millions of years ago.	Nonrenewable petroleum Latin word <i>petra</i> (rock) and <i>oleum</i> (oil)
natural gas	A fossil fuel that is a mixture of methane and other gases. Forms from the same organisms as oil.	Nonrenewable The least polluting fossil fuel.
nuclear power energy	Energy released during a nuclear reaction, nuclear fission or nuclear fusion.	fission - splitting of an atom (nuclear power plants) fusion - combining of two atoms (Sun)
biomass energy	Renewable fuels made from things that were once living.	corn = alcohol alcohol + gasoline = gasohol Fuel for cars
wind energy	Renewable source of energy that can be used to turn a turbine and generate energy.	"wind farms"
hydropower energy	Renewable energy produced by flowing water.	
geothermal	Renewable - Heat energy in Earth's interior from water or steam that has been heated by magma.	
solar	Renewable energy from the Sun.	
inexhaustible	Any living or nonliving thing in an environment for which there is a unlimited supply.	The Sun

6.8 Force, motion, and energy. The students knows force and motion are related to potential and kinetic energy.

force	A push or a pull exerted on an object.	Force = Mass x Acceleration
motion	Moving matter from one place to another.	An object is in motion when its distance to another object is changing.
energy	The ability to do work or cause change.	
potential energy	Stored energy.	
kinetic energy	Energy an object has due to its motion.	
direction	3 a : an explicit instruction :	b : assistance in pointing out the proper route
speed	The distance that an object travels in a given time.	speed = distance / time
unbalanced forces	A nonzero net force that changes an object's motion.	
inclined planes	A plane surface that makes an oblique angle with the plane of the horizon	
pulley	A wheel with a grooved rim in which a rope can run to change the direction of the pull and so lift a load.	

6.9 Force, motion, and energy. The student knows that the Law of Conservation of Energy states that energy can neither be created or destroyed, it can just change forms.

thermal energy	The total energy of a substance's particles due to their movement or vibration; also, the energy of motion in the molecules of a substance.	heat energy
chemical energy	Matter itself contains chemical energy. Chemical energy transforms to other forms of energy during a chemical reaction.	Plants transform electromagnetic energy from the Sun into chemical energy.
electrical energy	Moving electric charges produce electricity.	
energy transformation	Any change from one form of energy to another.	
conduction	The transfer of heat by movements of a fluid.	
convection	The transfer of heat by movements of currents within a fluid.	
radiation	The direct transfer of energy through empty space by electromagnetic waves.	

6.10 Earth and space. The student understands the structure of the Earth, rock cycle, and plate tectonics.

crust	The layer of rock that forms the Earth's outer layer.	
mantle	The layer of hot, solid material between the Earth's crust and core.	
outer core	The layer of molten iron and nickel that surrounds the inner core of Earth.	
inner core	The dense sphere of solid iron and nickel in the center of Earth.	
lithosphere	A rigid layer made up of the uppermost part of Earth's mantle and crust.	One of the four spheres into which scientist divide Earth.
asthenosphere	The soft layer f the mantle on which the lithosphere floats.	
igneous	A type of rock that forms from the cooling of molten rock at or below the surface.	Latin <i>ignis</i> (fire) Most common: intrusive igneous rock = granite, extrusive igneous rock = basalt
sedimentary	A type of rock that forms when particles of other rocks or the remains of plants and animals are pressed and cemented together.	Particle size - sandstone Organic - limestone Evaporate - halite
metamorphic	A type of rock that forms from and existing rock that changes by heat, pressure, or chemical reaction.	granite - gneiss shale - slate sandstone - quartzite (foliated - flat layers)
tectonic plates	A section of the lithosphere that moves slowly over the asthenosphere, carrying pieces of continental and oceanic crust.	Eurasian, African, Indo-Australian, Pacific, North American, and South American.
ocean basin	Formed along diverging plate boundaries.	

6.10 Earth and space continued...		
earthquakes	The shaking that results from the movement of rock beneath Earth's surface.	
volcanic eruptions	The process by which magma reaches the Earth's surface.	
mountain building	Different forces that can result in the formation of mountains.	converging plates, fault movement, volcanic eruptions etc...
6.11 Earth and space. The student understands the organization of our solar system and the relationships among the various bodies that comprise it.		
Sun	The luminous celestial body around which the earth and other planets revolve, from which they receive heat and light.	The single star in the center of our solar system.
planets	A "planet" is a celestial body that (a) is in orbit around the Sun, (b) has sufficient mass for its self-gravity to overcome rigid body forces so that it assumes a hydrostatic equilibrium (nearly round) shape, and (c) has cleared the neighborhood around its orbit.	http://www.iau.org/public_press/news/release/iau0603/questions_answers/
Galilean moons	Four of Jupiter's largest moons discover by Galileo in 1610.	Io, Europa, Callisto, and Ganymede
meteors	The streak of light in the sky produced by the burning of a meteoroid in Earth's atmosphere.	"Shooting stars"
asteroids	Objects revolving around the sun that are too small and too numerous to be considered planets.	Asteroid Belt between Mars and Jupiter.
comets	A ball of ice and dust who orbits around the sun in a long, narrow ellipse.	Hailey's Comet every 76 years
gravity	The force that pulls objects towards each other.	
inertia	The tendency of a moving object to continue in a straight line or a stationary object to remain in place unless acted on by an outside force.	

6.12 Organisms and environments. The student knows all organisms are classified into Domains and Kingdoms. Organisms within these taxonomic groups share similar characteristics which allow them to interact with the living and non living parts of their ecosystem.

cells	The basic unit of structure and function of organisms.	
nucleus	The cell's control center, directing all of the cell's activities.	
prokaryotic	Organisms whose cells lack a nucleus.	
eukaryotic	Organisms whose cells contain a nucleus.	
unicellular	Single-celled organisms.	
multicellular	Organisms composed of many cells.	
autotrophic	Organisms that can make their own food.	
heterotrophic	Organisms that cannot make their own food.	
sexual reproduction	The reproductive process that involves two parents who combine their genetic material to produce a new organism, which differs from both parents.	
asexual reproduction	The reproduction process that involves only one parent and produces offspring that are identical to the parent.	
taxonomy	The scientific study of how living things are classified.	
Kingdoms	The broadest level of an organisms classification.	
Domains	the highest taxonomic category in biological classification ranking above the kingdom.	

6.12 Organisms and environments continued ...		
biotic factor	A living part of an ecosystem.	
abiotic factor	The non-living part of the ecosystem.	
organism	A living thing.	
population	All the members of one species in a particular area.	
community	All the different populations that live together in a particular area.	
ecosystem	A system of living things, all the nonliving things that around it, and the relations between them.	
environment	Everything that surrounds and influences an organism.	

7.5 Matter and energy. The student knows that interactions occur between matter and energy.

radiant energy	Energy traveling as electromagnetic waves.	
energy transformation	Any change from one form of energy to another.	
chemical energy	Matter itself contains chemical energy. Chemical energy transforms to other forms of energy during a chemical reaction.	
photosynthesis	The process by which plants and some other organisms capture light energy and use it to make food from carbon dioxide and water.	photosynthesis formula (radiant energy from the sun is transformed into chemical energy through the process of photosynthesis)
biomass	The living or formerly living material in an ecosystem.	
compost bin	1 : a mixture that consists largely of decayed organic matter and is used for fertilizing and conditioning land	Bin-place where compost can be made(usually small scale, for home use)
food chains	The series of stages that shows the transfer of energy from producers to consumers and decomposers.	
food webs	The pattern of overlapping food chains in an ecosystem.	
energy pyramids	The flow of energy from the producer through the various consumers.	https://www.etap.org/demo/biology_files/lesson6/instruction6tutor.html

7.6 Matter and energy. The student knows that matter has physical and chemical properties and can undergo physical and chemical changes.

compounds	A substance produced when one or more substances are combined chemically in a specific ratio.	
elements	The simplest form of matter that can not be broken down by ordinary chemical means.	
molecules	A particle made of two or more atoms bonded together.	carbohydrates can be broken down into sugars.
physical change	A change that alters the form or appearance of a substance but does not make the material into another substance.	chopping wood, molding clay
chemical change	A change in matter that produces a new substance.	souring of milk, burning wood

7.7 Force, motion, and energy. The student knows that there is a relationship among force, motion, and energy.

ramp		
energy transformation	Any change from one form of energy to another.	
chemical energy	Matter itself contains chemical energy. Chemical energy transforms to other forms of energy during a chemical reaction.	digestion
thermal energy	The total energy of a substance's particles due to their movement or vibration; also, the energy of motion in the molecules of a substance.	digestion
force	A push or pull exerted on an object.	"emergence of seedlings"
turgor pressure	Force exerted on the cell wall by the water contained in the cell.	
geotropism	a tropism (as of plant roots) in which gravity is the orienting factor.	

7.8 Earth and space. The student knows that natural events and human activity can impact Earth systems.		
catastrophic events	3 a : a violent and sudden change in a feature of the earth b : a violent usually destructive natural event (as a supernova)	
floods	The overflowing of a river's channel due to the increase of the volume of water in the river.	
hurricanes	A tropical storm that has winds of 119 kilometer per hour or higher: typically about 600 km across.	
tornadoes	A rapidly whirling, funnel-shaped cloud that reaches down from a storm cloud to touch Earth's surface, usually leaving a destructive path.	
weathering	The process by which rocks are broken down into smaller particles.	
erosion	The wearing away of Earth materials by water, wind, or ice.	
deposition	When sediments carried by wind and water are layed to rest.	
groundwater	Water stored beneath the Earth's surface.	supplies aquifers, wells and springs
surface water	Water stored on the Earth's surface.	lakes, ponds, oceans etc...
watershed	1 a : divide 2a b : a region or area bounded peripherally by a divide and draining ultimately to a particular watercourse or body of water.	
7.9 Earth and space. The student knows components of our solar system.		
components	1 : a constituent part	See 6.11
accommodations	1 : something supplied for convenience or to satisfy a need: as a : lodging, food, and services or traveling space and related services	

7.10 Organisms and environments. The student knows that there is a relationship between organisms and the environment.

environment	Everything that surrounds and influences an organism.	
microhabitat	The microenvironment in which an organism lives <decaying wood creates a microhabitat for insects>	
biomes	A major ecological community type (as tropical rain forest, grassland, or desert)	
organisms	Any living thing, plant and animal.	
biodiversity	Biological diversity in an environment as indicated by numbers of different species of plants and animals in an area.	
sustainability	1 : capable of being sustained 2 a : of, relating to, or being a method of harvesting or using a resource so that the resource is not depleted or permanently damaged <sustainable techniques> <sustainable agriculture>	
ecological succession	Natural, gradual changes in the type of species that live in an area.	

7.11 Organisms and environments. The students knows that populations and species demonstrate variation and inherit many of their unique traits through gradual process over many generations.

structure	Is the way it's made	Hand with four fingers and a thumb.
function	The job it performs.	The hand can grasp objects
dichotomous keys	: a key for the identification of organisms based on a series of choices between alternative characters	
population	All the members of one species in a particular area.	
species	A group of organisms that can mate and produce offspring.	
physiology	1 : a branch of biology that deals with the functions and activities of life or of living matter (as organs, tissues, or cells) and of the physical and chemical phenomena involved — compare anatomy	
enhance	2 : heighten, increase; especially : to increase or improve in value, quality, desirability, or attractiveness.	
migration	To move into or come to live in a region or community especially as part of a large-scale and continuing movement of population.	
hibernation	1 : to pass the winter in a torpid or resting state 2 : to be or become inactive or dormant	
bulb	1 a : a resting stage of a plant (as the lily, onion, hyacinth, or tulip) that is usually formed underground and consists of a short stem base bearing one or more buds enclosed in overlapping membranous or fleshy leaves.	

7.11 Organisms and Environments continued.....		
genetic	2 a : of, relating to, or involving genetics; b : of, relating to, caused by, or controlled by genes	inherited
trait	Feature that an organism inherits from its parents.	straight hair - curly hair
generation	3 : the average span of time between the birth of parents and that of their offspring	
natural selection	The change in traits over several generations that result in adaptations to the environment.	Galapagos Medium Ground Finch or domestic animals.
selective breeding	The process of selecting a few organisms with desired traits to serve as parents of the next generation.	
7.12 Organisms and environments. The student knows that living systems at all levels of organization demonstrate the complementary nature of structure and function.		
structure	Is the way it's made	Hand with four fingers and a thumb.
function	The job it performs.	The hand can grasp objects
internal	1a: existing or situated within the limits or surface of something, b: having to with or situated in the inside of the body.	
adaptations	2 : adjustment to environmental conditions: as a : adjustment of a sense organ to the intensity or quality of stimulation b : modification of an organism or its parts that makes it more fit for existence under the conditions of its environment.	gills, hollow bones, xylem
gills	1 : an organ (as of a fish) for obtaining oxygen from water	
xylem	A complex tissue in the vascular system of higher plants that consists of vessels, tracheids, or both usually together with wood fibers and parenchyma cells, functions chiefly in conduction of water and dissolved minerals but also in support and food storage, and typically constitutes the woody element (as of a plant stem)	

7.12 Organisms and environments continued...		
circulatory system	The body system that transports oxygen, food, and waste through the body.	Heart, blood vessels, and blood
respiratory system	The body system that helps the body use air that is inhaled.	Lungs are the main organ of the respiratory system.
skeletal system	The body system that serves as a support framework, protects inner body parts, and helps with movement.	bones: the skull and rib cage offer protection to organs.
muscular system	A body system that helps a person move and maintain posture.	A muscle is a bundle of tissues that moves certain parts of the body.
digestive system	The body system that breaks food down so that it can be used by the body.	mouth, esophagus, stomach, and intestine
excretory system	The body system that separates and eliminates waste from the blood or tissues or from active protoplasm.	Usually in the form of sweat or urine. Protoplasm- a colloidal complex of protein, various organic and inorganic substances, and water.
reproductive system	The body system that enables living beings to produce offspring.	
integumentary system	The body system composed of skin, hair, and nails.	Skin is the body's largest organ.
nervous system	The body system for communication.	Composed of the brain, spinal cord, nerves and neurons.
endocrine system	The body system made up of the glands that produce hormones.	pituitary gland, thyroid gland
cells	The basic unit of structure and function of organisms.	
tissue	A mass or layer of cells usually of one kind together with their intercellular substances form one of the structural materials of a plant or an animal.	heart tissue, lung tissue
organ	A structure in the body that is composed of different kinds of tissue.	heart, bone etc...

7.12 Organisms and environments continued...		
organ system	A group of organs that work together to perform a major function in the body.	
organism	A living thing.	
organelles	A tiny cell structure that carries out a specific function within the cell.	
cell membrane	The outside boundary of a cell, controls what substances can enter and leave the cell.	
cell wall	A rigid layer of nonliving material that surrounds the cells of plants and some other organisms.	
nucleus	The control center of the cell that directs the cell's activities and determines the cell's characteristics.	
cytoplasm	The region of a cell located inside the cell membrane(prokaryotes) or between the cell membrane and nucleus (eukaryotes).	contains a gel-like material and organelles.
mitochondria	Rod-shaped cell structures that produce most of the energy needed to carry out the cell's functions.	
chloroplast	A structure in the cells of plants and some other organisms that captures energy from the sunlight and uses it to produce food.	
vacuole	A water-filled sac inside a cell that acts as a storage area.	
cell theory	*All living things are composed of cells. *Cells are the basic unit of structure and function in living things. *All cells are produced from other cells.	
extracting	To pull out or select.	
sustain	1: to give support or relief 2: to supply with sustenance (nourish) 3: to keep up (prolong)	

7.13 Organisms and environments. The student knows that a living organism must be able to maintain a balance in stable internal conditions in response to external and internal stimuli.

external stimuli	A change in an organisms surroundings that causes the organism to react.	
internal stimuli	A change that comes from within an organism, such as hunger and thirst, that causes the organism to respond.	
phototropism	A tropism in which light is the orienting stimulus	

7.14 Organisms and environments. The student knows that reproduction is a characteristic of living organisms and that the instructions for traits are governed in the genetic material.

heredity		
generation	3 : the average span of time between the birth of parents and that of their offspring	
sexual reproduction	The reproductive process that involves two parents who combine their genetic material to produce a new organism, which differs from both parents.	diverse offspring
asexual reproduction	The reproduction process that involves only one parent and produces offspring that are identical to the parent.	uniform offspring
inherited	to receive by genetic transmission.	inherit traits from parents
traits	A characteristic that an organism can pass onto its offspring through its genes.	
genes	A segment of DNA on a chromosome that codes for a specific trait.	
chromosomes	A rod-shaped cellular structure made of condensed chromatin; contains DNA, which carries the genetic information that controls inherited characteristics such as eye color and blood type.	

8.5 Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties.

atom	The smallest part of an element. The building blocks of matter.	
mass	A measure of how much matter is in an object.	
electrical charge	It occurs in discrete natural units, equal to the charge of an electron or proton.	http://www.answers.com/topic/electric-charge
protons	A small, positively charged particle in the nucleus of an atom.	Atom # = # of protons # of protons = # of electrons
neutrons	Small, uncharged particle in the nucleus of an atom.	
electrons	A tiny, negatively charged, high-energy particle that moves in the space outside the nucleus of an atom.	
nucleus	The central core of an atom.	Contains protons and neutrons
electron cloud	: the system of electrons surrounding the nucleus of an atom	divided into energy levels
valance electrons	The electrons that are the farthest away from the nucleus and are involved in chemical reactions.	
chemical properties	A characteristic that is observed when a substance interacts with another substance.	souring of milk, burning wood
physical properties	Characteristic that can be observed with out changing the substance into something else.	chopping wood, molding clay
Periodic Table	An arrangement of the elements in order of atomic number, in which elements with similar properties are grouped in columns.	elements in a columns are called groups each horizontal row across the table is a period
Chemical formulas	Shorthand method for writing compounds. b : a symbolic expression of the chemical composition.	

8.5 Matter and energy continued...		
subscripts	A number in a chemical formula that tells the number of atoms in a molecule or the ratio of elements in a compound.	Andalusite Al_2SiO_5
chemical reaction	Process that results in a reaction in which a new substance is formed.	
chemical equation	A short, easy way to show a chemical reaction, using symbols instead of words.	$2\text{Mg} + \text{O}_2 \rightarrow 2\text{MgO}$
Law of conservation of mass	states that the mass of substances in a closed system will remain constant, no matter what processes are acting inside the system.	http://www.iscid.org/encyclopedia/Law_of_Conservation_of_Mass
8.6 Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy.		
unbalanced forces	A nonzero net force that changes an object's motion.	
speed	The distance that an object travels in a given time.	speed = distance / time
velocity	Speed in a given direction.	
acceleration	The rate at which the velocity of an object changes.	
Newton's law of inertia	First law of motion: The tendency of a body to resist acceleration; the tendency of a body at rest to remain at rest or of a body in straight line motion to stay in motion in a straight line unless acted on by an outside force.	http://www.answers.com/topic/inertia
Newton's law of force and acceleration	The second law states that the force F acting on a body is equal to the mass m of the body times its acceleration a , or $F = ma$	http://www.answers.com/topic/newton-s-laws-of-motion
Newton's Law of action-reaction	The third law, also called the action-reaction law, states that the actions of two bodies on each other are always equal in magnitude and opposite in direction.	http://www.answers.com/topic/newton-s-laws-of-motion

8.7 Earth and space. The student knows the effects resulting from cyclical movements of the Sun, Earth, and Moon.

rotation	The spinning motion of a planet about it's axis.	Period of rotation = a day
axis	An imaginary line that runs through the center of a planet.	
revolves	How planets travel in an orbit around the Sun.	Period of revolution = year
lunar cycle	A regular cycle in the Earth-moon system producing phases of the moon.	The the lunar cycle, the moon takes 29.5 days to move through its phases.
tides	The daily rise and fall of Earth's waters on its coastlines.	Tides are caused by the interaction of Earth, the moon, and the sun.

8.8 Earth and space. The student knows characteristics of the universe.

universe	All of space and everything in it.	
stars	A giant ball of gas, composed mostly of hydrogen and helium.	Release energy in the form of light and heat through the process of nuclear fusion.
nebulae	A large amount of gas and dust in space spread out in an immense area.	
galaxies	A giant structure that contains hundreds of billions of stars.	Milky Way galaxy
Herztsprung-Russell diagram	A diagram relating the temperature and brightness of stars.	
wavelengths	The distance between the crest of one wave and the crest of the next.	
electromagnetic spectrum	The range of electromagnetic waves placed in a certain order.	
light waves	Viable light is an electromagnetic wave.	
radio waves	Electromagnetic eave with the longest wavelengths and lowest frequencies.	Radio telescopes VLA
light year	The distance that light travels in one year.	9.5 million million kilometers 300,000 kilometers per second

8.9 Earth and space. The student knows that natural events can impact Earth systems.

Theory of plate tectonics	The theory of plate tectonics states that Earth's plates are in constant, slow motion. The theory explains how the plates form and move. It also explains how plates interact, producing volcanoes, mountain ranges, earthquakes, and features of the ocean floor.	
topography	Information about a region's physical features, such as mountains, hills, and valleys.	
topographic maps	A map that uses symbols known as contour lines to show physical features of a region.	http://www.google.com/images?hl=en&source=og&sa=N&tab=li&q=Topographic+Map+Images
satellite views	Images of Earth and its physical features, sent by a satellite in space to Earth.	Google Earth
erosion features	Physical features on Earth's surface caused by erosion. Erosion is the process by which fragments of soil and rock are broken off from the ground surface and carried away, usually by wind and water.	http://www.fotosearch.com/photos-images/erosional-features.html
weathering	physical disintegration and chemical decomposition of earth materials at or near the earth's surface.	

8.10 Earth and space. The student knows that climatic interactions exist among Earth, oceans, and weather systems.

energy	The ability to do work or cause change.	
convection	The transfer of heat by movements of currents within a fluid.	
atmosphere	The mixture of gases that surrounds Earth. The outer most of 4 spheres in which scientists have divided into layers.	
wind	The horizontal movement of air from an area of high pressure to an area of lower pressure.	
ocean currents	Streams of water within the oceans that move in regular patterns.	Gulf Stream
global patterns	Conditions that can be found world wide.	Global ocean and wind currents

8.10 Earth and space continued.....

weather maps	A map or chart depicting the meteorological conditions over a specific geographic area at a specific time.	http://www.answers.com/topic/weather-map
high air pressure	Is the result of the weight of a column of air pushing down on an area.	
low air pressure	Is the result of the weight of a column of air pushing down on an area.	Warm air rises and creates an area of low air pressure.
fronts	The area where air masses meet and do not mix become fronts.	
weather	Weather is the atmospheric conditions over a small area for a short period of time.	

8.11 Organisms and environments. The student knows that interdependence occurs among living systems and the environment.

producer	An organism that can make its own food.	
consumer	An organism that obtains energy by feeding on other organisms.	
predator	A carnivore that hunts and kills other animals for food and has adaptations that help it capture the animals it preys upon.	
prey	An animal that a predator feeds upon.	
parasite	An organism that lives on or in a host and causes harm to the host.	
host	A organism that provides a source of energy or a suitable environment for a virus or for another organism to live.	
food webs	The pattern of overlapping food chains in an ecosystem.	

8.11 Organisms and environments continued...		
marine ecosystem	In the Earth's oceans.	ecosystem - all the living and nonliving things that interact in an area.
freshwater ecosystem	In the Earth's freshwater systems.	ecosystem - all the living and nonliving things that interact in an area.
terrestrial ecosystem	On land.	ecosystem - all the living and nonliving things that interact in an area.
organism	A living thing.	
population	All the members of one species in a particular area.	
biotic	A living part of an ecosystem.	
abiotic	The nonliving part of an ecosystem.	light, water, range of temperatures, and soil composition