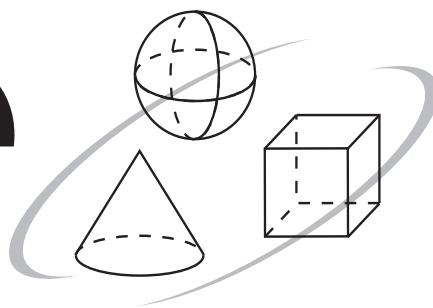


Simple Solutions.

Minutes a Day—Mastery for a Lifetime!



NextGen Science 4

Glossary

Please keep this book out of a landfill—recycle it.



Glossary

Vowel Pronunciations				
a	e	i	o	u
at	end	it	hot	up
āpe	mē	īce	ōld	ūse
wigwām			sòng	rüle
âir			fòrk	pùll
			òil	tùrn, sùre
			out	
ə = unstressed sound, as in lava, given, pencil, wagon, virus, and idea				

absorb (v)

to take in or soak up energy or a liquid

acid rain (n) L #72

precipitation formed when air pollution combines with moisture in the air; can cause chemical weathering

adapt (v) L #46

to change and become better suited to survive in an environment; an organism adapts over time

amplitude (n) L #34

the height of a wave, as measured from the wave's resting place to the top of a crest or from the wave's resting place to the bottom of a trough

atom (n)

the smallest particle of an element that has the properties of the element

attract (v) L #7

to pull toward

balanced forces (n) L #9

a condition in which forces are the same size and going in opposite directions; when forces are balanced, an object at rest will not move, and a moving object will continue to move in the same direction and at the same speed

behavior (n) L #59

the way an organism acts in response to signals from its environment

binary code (n) L #42

coding system that uses the digits 0 and 1 to send, receive, and store data

binoculars (n) L #4

a handheld tool used to see things at a distance

canyon (n) L #74

a deep valley with steep sides

carbon dioxide (n) L #46

a colorless, odorless gas that plants take in during photosynthesis; a gas animals breathe out as waste

carnivore (n)

an animal that eats only animals

Glossary

chemical potential energy (n) L #19

stored energy that can be released by a chemical reaction, such as burning

chemical weathering (n) L #72

the breaking down of rock into smaller pieces caused by chemical reactions

chlorophyll (klor ə fil) (n) L #61

substance in plants that absorbs sunlight and gives plants their green color; used by plants to carry out photosynthesis

circuit (sūr kət) (n) L #33

a path along which an electric charge can flow; if there are no breaks in the path, it is a closed or complete circuit, if there are breaks in the path, it is an open or incomplete circuit

climate (n) L #87

the average weather in a place over a period of years

climate change (n) L #87

a change in conditions on Earth, such as in temperature or rainfall, over time

collide (v) L #18

bump or crash into; contact that results in a transfer of energy

collision (n)

making contact; objects bumping into one another, which results in a transfer of energy

condensation (n)

process in which water vapor turns to liquid water

conductor (n) L #33

material that allows an electric charge to flow through it

constraint (n) L #27

factor or condition that restricts, or limits, what engineers can do while creating or designing solutions

constrict (v) L #39

to get more narrow or become less open

contact forces (n) L #7

forces that work when objects touch (push, pull, friction)

continent (n)

one of the seven large divisions of land on Earth

core (n) L #66

deepest layer of Earth made of very hot metal; includes the inner and outer core

cornea (n) L #39

transparent covering over the iris and pupil of the human eye

crest (n) L #34

the peak, or highest point, of a wave

criteria (n) L #27

requirements; what a design or solution must have

Glossary

- crust** (n) L #66
thin outer layer of Earth made of sections called plates; includes the continents and land under the oceans
- data** (n)
facts that can be used to compute, think, plan, and make decisions
- deciduous** (adj)
type of tree that sheds its leaves each year in the fall
- delta** (n) L #73
a triangle-shaped landform created when rich sediment is deposited at the mouth of a river
- deposition** (n) L #67
the dropping and settling of sediment to the lowest surface; bits and pieces of rock that are carried by wind or water and settle to the ground
- dilate** (v) L #39
to get wider or become more open
- disturbance** (n) L #34
an interruption in stillness
- drought (drou)** (n)
natural hazard resulting from a period of little or no rain
- Earth and space science** (n) L #3
the study of Earth, the solar system, and other nonliving things, such as weather
- earthquake** (n) L #68
shaking of Earth's surface often caused by tectonic plates colliding or sliding past each other
- echolocation** (n) L #57
hunting and navigating by emitting sound waves and listening for their bounce-back or return
- elastic potential energy** (n) L #19
the energy stored in an object when it is compressed or stretched, such as a spring that is compressed or stretched out
- electric current** (n) L #24
the flow of electrical energy through wires
- electrical energy** (n) L #23
electricity; energy that travels as electric currents
- electricity** (n) L #17
a form of energy that is carried by the quick movement of tiny particles; it is generated in power plants and occurs naturally in lightning and static electricity
- eliminate** (v) L #47
to remove waste from the body
- energy** (n) L #16
the ability to cause change
- engineering** (n) L #26
the process of defining and solving problems by applying the principles of science and mathematics

Glossary

engineering design process (n) L #27

a multi-step process engineers use to create the best solution to an observed problem

environment (n)

all the living and nonliving things that surround an organism

erosion (n) L #73

process that moves pieces of earth, or sediment, from one place to another

evaporation (n)

process in which liquid water turns to water vapor

external structure (n) L #47

a part outside the body of an organism, such as a tail, ear, or claw on an animal; root, stem, or leaf on a plant

extinct (adj) L #54

no longer existing; describes a species whose members have all died

fault (n) L #68

a break in Earth's crust

fertilized (adj) L #54

describes an egg in the first stage of life that has what it needs to begin its life cycle

force (n) L #6

a push or a pull

fossil (n) L #69

evidence of an organism that lived long ago

fossil fuel (n) L #31

substance formed from the remains of plants and animals buried in the earth over millions of years (coal, oil, natural gas)

friction (n) L #6

a force created by objects rubbing against each other; a force that stops or slows moving objects

gas (n) L #11

state of matter that does not take up a definite amount of space (volume) and does not have a definite shape

generator (n) L #24

a machine that converts mechanical energy to electrical energy

geology (n) L #66

the science of Earth, including how Earth was formed, what it is made of, and how it has changed over time

germinate (v) L #53

to sprout; begin to grow

germination (n)

the process a plant goes through as it grows from a seed to a seedling

gills (n) L #46

structures that fish use to take in oxygen from water

Glossary

glacier (n) L #74

a large mass of moving ice

gravitational potential energy (n) L #19

the stored energy held by an object that can be acted upon by gravity when dropped; energy of position

gravity (n) L #7

a force that pulls objects toward the center of Earth

greenhouse gas (n) L #32

gas that traps warm air in Earth's atmosphere and overheats the planet; produced when fossil fuels are burned

habitat (n)

the place or environment where an organism or community of organisms lives

hand lens (n) L #4

magnifying glass; a handheld tool that makes an object look bigger

heat (n) L #17

thermal energy; a form of energy that causes substances to rise in temperature; energy that moves from warmer objects to cooler objects

heatwave (n) L #96

natural hazard resulting from a period of excessively hot weather

herbivore (n)

an animal that eats only plants

hydropower (n) L #92

also called hydroelectricity; the use of moving water to generate electricity

hydropower plant (n) L #24

a power plant that converts flowing water to electricity

hypothesis (n) L #1

a prediction based on solid evidence

igneous (adj) L #67

rock formed from cooled magma

inference (n) L #2

a conclusion based on solid evidence

inquiry (n) L #2

a process that has many steps, including asking questions and seeking information

internal structure (n) L #47

a part inside the body of an organism, such as a stomach, lung, or vein in an animal; xylem, phloem, or chloroplast in a plant

invasive species (n) L #78

organisms that are not native to an ecosystem and cause harm to the environment

iris (n) L #39

the colored part of the eye that surrounds the pupil and controls how much light can pass into the eye

Glossary

kinetic energy (n) L #21

the energy of motion

laboratory scale (n) L #4

a tool used to measure mass

lahar (n) L #77

mixture of water, soil, and volcanic debris that flows down the slope of a volcano after an eruption

landslide (n) L #77

sudden downhill movement of a large amount of rock and soil

lava (n) L #67

magma that has flowed out of a volcano

lens (n) L #39

the clear, colorless part of the eye that reflects and focuses light waves on the retina

life cycle (n)

the series of changes an organism goes through as it grows; includes birth, growth, reproduction, and death

life science (n) L #3

the study of living things

light (n) L #16

the form of energy that makes vision (seeing) possible; travels in waves at a very high speed

liquid (n) L #11

the state of matter that takes up a definite amount of space (volume) but does not have a definite shape

magma (n) L #67

molten rock inside Earth that becomes lava as it flows out of a volcano

mantle (n) L #66

middle layer of Earth made of very hot rock; outer layer of mantle is hot and flowing

mass (n) L #11

the amount of matter in an object

matter (n) L #11

anything that has mass and takes up space; what objects are made of

mature (adj) (L #53)

describes an adult, or fully-grown and developed organism

mechanical energy (n) L #23

motion from an object pushing against another object

metamorphic (adj) L #67

describes rock formed over time by heat and pressure applied to igneous or sedimentary rock

metamorphosis (n) L #63

series of changes an animal goes through from its young form to its adult form

microscope (n) L #4

a tool used to see objects that are too small to be seen with the human eye

Glossary

molten (adj) L #66

substance that has been turned into liquid by extreme heat

moraine (n) L #74

deposit of rocks and sediment left behind as a glacier retreats, or shrinks

motion (n) L #8

movement; the changing of position

natural hazard (n) L #96

a dangerous event caused by nature, such as an earthquake, volcanic eruption, flood, or tornado

nectar (n)

a sweet liquid produced by the flower of a plant

nocturnal (adj) L #57

describes an animal that moves about and hunts at night

nonrenewable (adj) L #32

not able to be replaced or replenished

nuclear energy (n) L #89

a nonrenewable energy source that comes from energy released by the splitting of uranium atoms

nutrient (n)

substance that gives nourishment for survival and growth, for example, food, water, proteins, vitamins, and minerals

nutrient pollution (n) L #81

harmful levels of chemicals that are washed into the groundwater when it rains

ocean trench (n) L #83

deep narrow valley in the ocean floor

offspring (n)

the young of plants or animals

omnivore (n)

an animal that eats both plants and animals

opaque (ō pāk) (adj) L #38

describes a material that allows no light waves to pass through

optic nerve (n) L #39

the nerve at the back of the eye that carries electrical signals from the retina to the brain

organism (n)

a living thing

oxygen (n)

a colorless, odorless gas in the air that animals breathe in and plants give off as waste

Pangea (n) L #71

a large landmass of almost all Earth's land that drifted apart millions of years ago and became the seven continents

Glossary

passive solar energy (n) L #93

energy of the sun that is collected and used for heat and light; the type of energy used in a greenhouse

pattern (n) L #14

a regular and predictable series of repeating events

phenomena (fi nă mə nə) (n) L #26

observable events; things that happen

phloem (flō əm) (n) L #48

tubes in a plant that distribute food throughout the plant

photocell (n) L #94

a device that converts light into electrical energy

photosynthesis (n) L #61

process by which plants make their own food using sunlight, water, and carbon dioxide

physical property (n) L #13

the features of an object that can be observed and measured, such as mass, color, and shape

physical science (n) L #3

the study of matter, energy, and forces

physical weathering (n) L #72

the breaking down of rock into smaller pieces; weathering caused by water, ice, wind, living things, and temperature change

pistil (n) L #52

the female reproductive part of a flower

plate tectonic theory (n) L #71

the concept that Earth's crust is made up of large pieces called plates that constantly move (float) over a layer of molten rock

pollen (n) L #52

fine yellow dust in the flower of a plant that is needed to fertilize the plant

pollination (n) L #52

the spread of pollen from one flower to another with the help of insects, animals, or wind; the process a flowering plant uses to make seeds for reproduction

pollinator (n) L #52

animal, such as a bird, bat, or bee, that carries pollen from one plant to another

potential energy (n) L #19

stored energy

precipitation (n)

water falling to the ground in the form of rain, snow, sleet, or hail

predator (n)

an animal that gets food by killing and eating other animals

prey (n)

an animal that is hunted by a predator for food

Glossary

proboscis (prə bäs səs) (n) L #49

a long thin tube that forms part of the mouth of some insects

property (n) L #13

a feature that describes matter

pupil (n) L #39

an opening in the center of the eye that allows light to enter the eye

radiant energy (n) L #23

energy that moves in waves and can travel through space

receptors (n) L #58

special cells animals have that receive messages from the world around them

reflect (v) L #16

to bounce off an object

reflection (n) L #37

the return of waves bouncing off a surface

renewable (adj) L #32

able to be replaced; not depleted when used

repel (v) L #7

to push away

reproduce (v)

to make more of one's own kind; create offspring

reproduction (n)

process an organism uses to make more of its own kind

reproductive (adj)

relating to reproduction

reservoir (re zə vwär) (n) L #92

large body of water created by a dam

retina (n) L #39

tissue surrounding the back of the eye that receives light entering through the lens

ruler (n) L #4

a tool used to measure lengths, usually of one foot or less

runoff (n)

precipitation or melting ice and snow that goes into oceans, lakes, rivers, or sinks into the ground

saturated (adj) L #77

full of moisture; unable to absorb any more water

science (n) L #26

the study of the natural world and all its phenomena

scientific methods (n) L #2

a set of steps used to answer questions: inquiry, observation, research, experimentation, and inference

Glossary

- sediment** (n) L #67
small bits of broken-down rock
- sedimentary** (adj) L #67
rock formed over thousands of years from sediment deposited in layers
- seismic wave** (n) L #68
energy that travels through Earth, often caused by the movement of tectonic plates
- seismograph** (n) L #98
an instrument that detects earthquakes by measuring and recording seismic waves
- sensory organ** (n) L #57
structure that allows an animal to receive information from the environment
- solar concentrator system** (n) L #94
a method of converting sunlight to electricity using computer-controlled mirrors to reflect the sun's rays and concentrate them on a liquid, such as molten salt
- solar energy** (n) L #93
light and heat given off by the sun that can be converted to electricity
- solid** (n) L #11
the state of matter that takes up a definite amount of space (volume) and has a definite shape
- sound** (n) L #16
a form of energy that results from and creates vibrations; energy that travels in waves through matter and allows the ear to hear
- species** (n) L #47
the whole group of the same kind of organism
- spiracle** (n) L #51
opening on an insect's body that allows air to enter and exit
- stamen** (n) L #52
the male reproductive part of a flower that produces pollen
- static electricity** (n) L #7
the buildup of an electrical charge on the surface of an object
- stomata** (n) L #51
opening on the surface of a plant leaf that allows the plant to take in carbon dioxide and eliminate oxygen as waste
- stopwatch** (n) L #4
a tool used to measure the amount of time something takes
- survive** (v)
to stay alive
- tape measure** (n) L #4
a flexible tool used to measure length
- taproot** (n) L #62
long thick plant root consisting mainly of a single shoot

Glossary

tectonic plate (n) L #66

large piece of Earth's crust that floats on the upper layer of the mantle

telescope (n) L #4

a tool used to see objects too far away to be seen with the human eye, such as moons, planets, and stars

terminal (n) L #33

a contact on an electrical device, like a battery, at which electric current enters or leaves

theory (n)

an explanation supported by a large amount of evidence and generally accepted in the scientific community

thermal energy (n) L #17

energy in the form of heat

thermometer (n) L #4

a tool used to measure temperature

tides (n) L #43

the pattern of rising and falling sea levels caused by the gravitational pull between the moon and Earth

till (n) L #74

rich soil made of sand, silt, clay, and rock deposited by a glacier

trait (n)

a characteristic that describes an organism

translucent (adj) L #38

describes a material that allows some light waves to pass through

transparent (adj) L #38

describes a material that allows most light waves to pass through

trough (n) L #34

the valley, or lowest point, of a wave

tsunami (n) L #96

tidal wave; a giant wave produced by activity below Earth's surface

turbine (n) L #24

a machine with fan blades, often attached to a generator

unbalanced forces (n) L #9

a condition in which forces are not equal and cause a change in motion

volcano (n) L #68

land feature formed by magma rising to Earth's surface

volume (n)

the amount of space something takes up

water cycle (n)

the continuous movement and recycling of water in the environment; evaporation, condensation, precipitation, and runoff

Glossary

wave (n) L #16

a regular pattern of motion that transfers energy from one place to another

wavelength (n) L #34

the distance from one crest to the next or from one trough to the next on a wave

weathering (n) L #72

the breaking down of Earth's surface over time caused by chemicals, water, wind, ice, temperature changes, and living things

wind (n) L #91

air in motion

wind energy (n) L #91

the use of moving air to generate electricity; energy captured by a turbine and transformed into electricity

xylem (zī lum) (n) L #48

tubes that carry water and minerals up to the leaves of the plant from its roots