Science Glossary Grade 8 (A knowledge of the terms in the Grade 4 Glossary is assumed)

abiotic	an environmental factor not associated with the activities of living organisms
acceleration	rate of change in velocity, usually expressed in meters per second; involves an increase or decrease in speed and/or a change in direction
air resistance	force of air on moving objects
allele	any of two or more alternate forms of a gene that an organism may have for a particular trait
amplitude	in any periodic function (e.g., a wave) the maximum absolute variation of the function
asexual reproduction	a form of reproduction in which new individuals are formed without the involvement of gametes
biodiversity	the existence of a wide range of different species in a given area or specific period of time
biotic	factors in an environment relating to, caused by, or produced by living organisms
calorie	unit of energy; the amount of heat needed to raise one gram of water one degree Celsius at standard atmospheric pressure
chemical weathering	the breakdown and alteration of rocks at or near Earth's surface as a result of chemical processes
circuit	an interconnection of electrical elements forming a complete path for the flow of current
conduction	the transmission of heat through a medium and without the motion of the medium
conservation of energy	a fundamental principle stating energy cannot be created nor destroyed but only changed from one form to another

convection	heat transfer in a gas or liquid by the circulation of currents from one region to another
crest	the peak or highest point on a wave
crust	outermost layer of Earth covering the mantle
dependent variable	factor being measured or observed in an experiment
deposition	the process by which sediment is carried by forces (e.g., wind, rain, or water currents) and left in a certain area
diffraction	the change in direction of a wave caused by passing by an obstacle or traveling through an opening
dominance	tendency of certain (dominant) alleles to mask the expression of their corresponding (recessive) alleles
ecosystem	an ecological community, together with its environment, functioning as a unit
efficiency	the relative effectiveness of a system or device determined by comparing input and output
electromagnetic radiation	the emission and propagation of the entire range of electromagnetic spectrum including: gamma rays, x-rays, ultraviolet radiation, visible light, microwaves, and radio waves
electron	a stable elementary particle that is negatively charged and orbits the nucleus of an atom
entropy	a measure of randomness or disorder of a closed system
erosion	a combination of natural processes in which materials from Earth's surface are loosened, dissolved, or worn away and transported from one place to another
fossil fuels	the remains of animal or plant life from past geologic ages that are now in a form suitable for use as a fuel (e.g., oil, coal, or natural gas)
frequency	the number of cycles or waves per unit time

gene	a specific part of a chromosome or sequence of DNA that determines a particular feature or characteristic in an organism
heterozygous	cell or organism that has two different alleles for a particular trait
homozygous	cell or organism that has identical rather than different alleles for a particular trait
independent variable	the factor that is changed in an experiment in order to study changes in the dependent variable
inertia	the tendency of an object to resist any change in its motion
magnetic field	the region where magnetic force exists around magnets or electric currents
mass	the amount of matter an object contains
meiosis	the process of nuclear division in cells during which the number of chromosomes is reduced by half
mitosis	a process of nuclear division in eukaryotic cells during which the nucleus of a cell divides into two nuclei, each with the same number of chromosomes
neap tide	a twice-monthly tide of minimal range that occurs when the Sun, Moon, and Earth are at right angles to each other, thus decreasing the total tidal force exerted on Earth
neutral	a particle, object, or system that lacks a net charge
neutron	a subatomic particle having zero charge, found in the nucleus of an atom
nucleus	the center region of an atom where protons and neutrons are located; also a cell structure that contains the cell's genetic material
ocean basin	a depression on the surface of Earth occupied by water
plate tectonics	theory of global dynamics in which Earth's crust is divided into a smaller number of large, rigid plates whose movements cause seismic activity along their borders

potential energy	energy stored in an object due to the object's configuration and position
pressure	the force exerted per unit area
prism	a piece of glass with polished plane surfaces that disperses a beam of white light into its component colors
proton	a subatomic particle having a positive charge and which is found in the nucleus of an atom
Punnett square	a graphic checkboard used to determine results from a particular genetic cross
radiation	emission of energy in the form of rays or waves
recessive	an allele for a trait that will be masked unless the organism is homozygous for this trait
screw	a type of simple machine that consists of an inclined plane wrapped around a cylinder
sexual reproduction	reproduction involving the union of gametes producing an offspring with traits from both parents
spectroscope	an instrument that may use a prism to separate and catalog light wavelengths
speed	amount of distance traveled divided by time taken; the time-rate at which any physical process takes place
spring tide	the tide of increased range that occurs twice monthly at the new and full phases of the Moon
thermal energy	internal energy found in a substance
tropism	the motion of an organism or part of an organism toward or away from an external stimulus
trough	the lowest point on a wave
variable	an event, condition, or factor that can be changed or controlled in order to study or test a hypothesis in a scientific experiment

velocity	the time-rate at which a body changes its position; defined as displacement divided by the time of travel
vibration	a repetitive movement around an equilibrium point
virus	a noncellular, disease-causing particle that uses the genetic material from its host to reproduce
wavelength	the distance between crests of a wave
wedge	a type of simple machine that consists of an inclined plane used to separate two objects
wheel and axle	a type of simple machine that consists of a rod driven through the center of a cylinder that is allowed to rotate freely, yielding a mechanical advantage equal to the cylinder's diameter