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

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| 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  |

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| 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  |