

## APPENDIX C: STATEWIDE SCIENCE ASSESSMENT ITEM WRITER GLOSSARY GRADE 8

The following glossary is a reference list provided for the item writers and is **not** intended to comprise a comprehensive vocabulary list for students. The definitions are not intended to provide a thorough scientific definition of the terms. Some definitions are limited by the extent of knowledge intended for the grade level. The terms and definitions in this glossary are specific to the Florida NGSSS in science for grades 6 through 8 and the content assessed on the Statewide Science Assessment. Knowledge of the terms in the glossary for grade 5 is assumed.

**Acceleration**—The rate at which velocity is changing. The change may involve an increase or decrease in speed and/or a change in direction. The change may be positive or negative.

**Allele**—Any of two or more alternate forms of a gene that an organism may have for a particular trait.

**Amplitude**—The maximum absolute variation of any periodic function (e.g., a wave).

**Astronomical unit**—A unit used to measure distances in the Solar System equal to the average distance between the Sun and Earth, approximately 150 million kilometers, and abbreviated AU.

**Autotroph**—An organism that can produce food from inorganic materials (e.g., carbon dioxide, sunlight, water).

**Binary fission**—An asexual reproductive process in which a single cell divides into two cells.

**Binomial nomenclature**—A system used to name organisms using two words: the genus name and the species name.

**Boiling point**—The temperature at which a liquid changes to a gas. The boiling point of water at sea level is 100°C (212°F).

**Budding**—An asexual reproductive process in which an outgrowth of a parent organism detaches and forms a new individual of the same species.

**Chemical properties**—Characteristics of substances that describe their composition, reactivity, and how the substance changes into different substances.

**Controlled variable**—A factor or condition in a scientific experiment that is purposefully kept the same.

**Dominant**—The form of a trait that is expressed or shown when the combination of alleles for this trait is heterozygous.

**Dwarf planet**—A celestial body similar to a planet but orbiting in a zone that has many other objects in it (e.g., Ceres, Pluto).

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**Empirical evidence**—Evidence based on observations or experiments rather than theory.

**Eukaryote**—An organism whose cells contain a nucleus surrounded by a membrane.

**Evolution (scientific theory of evolution)**—A cumulative change in the characteristics of organisms or populations over time from generation to generation.

**F<sub>1</sub> generation**—The first generation of offspring from the mating of parental organisms (P generation).

**Fault**—A crack in Earth’s crust along which movement has occurred.

**Fold**—A bend in a layer or several layers of rock.

**Heterogeneous**—A type of mixture in which different parts can be easily distinguished.

**Heterotroph**—An organism that cannot produce its own food.

**Heterozygous**—A cell or organism that has two different alleles for a particular trait.

**Homeostasis**—The tendency of a cell, organism, or population to maintain internal stability.

**Homogeneous**—A type of mixture in which the different parts are blended evenly so that the mixture is the same throughout.

**Homozygous**—A type of cell or organism that has identical rather than different alleles for a particular trait.

**Hypothesis**—A statement that can be tested scientifically through experiments and/or other scientific investigations.

**Infiltration**—A process in which water soaks into the soil.

**Kingdom**—The highest Linnaean classification into which organisms are grouped; above phylum.

**Law (scientific law)**—A scientific principle based on many observations of naturally occurring events that demonstrate it to be without exception under certain stated conditions. See also theory.

**Light-year**—The distance a ray of light travels in a vacuum in one year.

**Melting point**—The temperature at which a solid changes to a liquid. The melting point of ice at sea level is 0°C (32°F).

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**Model (scientific model)**—A replica or description designed to show the workings or structure of an object or system.

**Molecule**—The smallest unit of matter of a substance that retains all the physical and chemical properties of that substance; consists of a single atom or a group of atoms bonded together.

**Nebula**—A large cloudlike mass of gas and dust in space that may lead to the formation of a star.

**Net force**—The sum of all the forces acting on an object. When forces are balanced, the net force is zero and the object's motion will remain the same. When forces are unbalanced, the net force is nonzero and the object's motion will change.

**Niche**—The unique position occupied by a particular species in terms of the area it inhabits and the function it performs within the community.

**Nucleus**—The center region of an atom where protons and neutrons are located; also, the cell structure that contains a cell's genetic material.

**Opaque**—A term used to describe a material that absorbs and/or reflects light and does not allow light to pass through.

**Outcome variable (dependent variable)**—A factor, usually being measured or observed, that responds to, or depends on, another factor (test variable).

**P generation**—The parental generation in a genetic cross.

**Percolation**—The movement of water through rock or soil.

**pH**—A measure of the acidity or alkalinity of a solution based on a scale from zero to fourteen.

**Pressure**—The force exerted per unit area.

**Prokaryote**—An organism whose cells are characterized by the lack of a defined nucleus.

**Recessive**—The form of a trait that will be masked unless the organism is homozygous for this trait.

**Regeneration**—The growth of new tissues or organs to replace those lost or damaged by injury.

**Repetition**—Making multiple sets of measurements or observations in a scientific investigation.

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**Replication**—The reproduction of a scientific investigation by another person to ensure accuracy.

**Saturation**—A condition of a solution whereby it has reached a maximum amount of solute under the given conditions.

**Solute**—A substance that is being dissolved by another substance.

**Solvent**—A substance that dissolves another substance.

**Systematic observations**—Observations obtained by following a preplanned method of observation.

**Temperature**—A measure of how hot or cold a substance is; a measure of the average kinetic energy of the particles of a substance.

**Test variable (independent variable)**—The variable manipulated by the experimenter in order to study changes in the outcome variable.

**Theory (scientific theory)**—An explanation for some naturally occurring event developed from extensive observations, experimentation, and reasoning. See also law.

**Translucent**—A term used to describe a material that cannot be clearly seen through but that allows some light to pass through it.

**Transparent**—A term used to describe a material that can be clearly seen through because it allows light waves to pass through in straight lines.