A Solar System Formation Glossary

amino acid a compound belonging to a class that comprise proteins and are important components of cells and the skin and muscles of our bodies.

asteroid a round or an irregularly shaped rock that orbits the Sun, mostly in the asteroid belt between the orbits of Mars and Jupiter.

asteroid belt the region in the solar system between the orbits of Mars and Jupiter, approximately 2.0 to 3.5 AU from the Sun, in which most of the asteroids orbit.

big bang the prevailing cosmological model for the universe from the earliest time through its subsequent large-scale evolution. Also the event in this model that marked the beginning of time and the universe as we know it.

comet an object composed of ices and dust and, when near the Sun develops, a long luminous tail produced by vaporization of the ices.

condrule a round glassy particle embedded in many primitive meteorites. They are usually about one millimeter in diameter and consist largely of certain silicate minerals.

crustal plate one of seven major sections of the Earth's outer crust that reacts to tectonic forces as a unit and moves as such.

cyanobacteria bacteria belonging to a large group that carry out photosynthesis and are believed to be responsible for forming our oxygen atmosphere.

electrostatic forces electric forces between common materials that acquire electric charge through contact and friction.

hydrogen sulfide a colorless, toxic, flammable gas with the formula H₂S that is believed to be the source of energy for early life on our planet.

hydrothermal vent a fissure in a planet's surface from which geothermally heated water issues.

jovian planets a relatively large planet composed primarily of ices and liquid forms of gasses.

Kuiper belt a ring of icy objects smaller than a planet orbiting in the outer solar system beyond Neptune. It is believed to be a source of some of the comets visiting the inner solar system. Pluto is a member of this belt.

LHB acronym for late heavy bombardment, a time in the history of the Earth when asteroids and comets frequently impacted the planet at high velocity. During this period most of the craters on Mercury and the Moon were created.

Milky Way the spiral galaxy to which Earth and its solar system belong.

Oort cloud a huge, roughly spherical, orbiting collection of comets thought to exist at the edge of the solar system and flung there from interactions with the Jovian planets.

oxygen a highly reactive nonmetal that readily forms oxides with most elements as well as with other compounds. By mass it is the third-most abundant element in the universe.
ozone the molecule $O_3$ formed by electrical discharge in oxygen or by the action of ultraviolet (UV) photons on $O_2$ molecules high in the Earth's atmosphere where it acts as a shield protecting the planet's surface from the most damaging UV light.

photosynthesis a process by which green plants and other organisms turn carbon dioxide and water into carbohydrates and oxygen, using light energy trapped by chlorophyll.

planet a body orbiting a star with sufficient mass to become spherical due to its own gravity and clear its orbital path of smaller bodies.

planetesimals a small rocky astronomical object thought to have orbited the Sun in the early stages of the solar system before coalescing with others to form the planets.

plate tectonics a theory describing the large-scale motion of seven large plates and the movements of a number of smaller plates of the Earth's lithosphere.

primitive atmosphere the first atmosphere a terrestrial planet acquires through outgassing from rocks heated by the processes of formation.

protoplanet a large pre-planetary body that originated within a protoplanetary disc.

protoplanetary disk a rotating circumstellar disk of dense gas and dust surrounding a young newly forming star.

solar nebula a gaseous cloud from which the Sun and planets were formed.

solar system a star and all the planets, moons, asteroids and comets gravitationally bound to it.

stromatolite a very old fossil formed in sedimentary rock by sea cyanobacteria and consisting of a rounded or columnar calcium-containing mass of many layers

supernova an astronomical event that occurs during the last stages of a massive star's life whose dramatic and catastrophic destruction is marked by one final titanic explosion.

terrestrial planet a relatively small, dense and rocky planet with a metallic core.

Theia in the giant impact hypothesis the theorized protoplanet responsible for the formation of the Earth's moon by collision with Earth.