



GLOSSARY

astronomy - the study of space including, but not limited to, stars, planets, galaxies, nebulae, black holes, supernovae, asteroids, comets, and the search for extraterrestrial life.

atom - a basic unit of matter. The simplest building block of the universe, an atom has a nucleus containing protons and neutrons and a cloud of electrons that surrounds the nucleus.

comet - a small, icy object from the outer part of the solar system. Comets form tails as they approach the Sun and begin to warm up. The heat vaporizes the icy materials in the comet to form a tail of gas and dust behind it. Comets also contain some of the essential chemistry for life, including carbon and water.

element - a pure substance containing only one type of atom.

extraterrestrial - any object, living or otherwise, that originates from some place other than planet Earth.

extremophile - an organism that has adapted to survive in extreme, yet stable, environments. Extremophiles are found in places and/or under conditions that would normally be considered inhospitable to human life.

fluid - state of matter in which molecules are free to move around rather than held fast in a fixed (solid) structure.

fusion - a process by which two atomic nuclei are squeezed, or fused, together under intense heat and pressure. This occurs naturally in the center of a star and makes it shine. Our Sun fuses hydrogen atoms together to produce helium.

galaxy - a massive collection of stars and other celestial objects bound together into a single system by gravity. They can contain from 10 million stars to 1 trillion stars. The Earth and Sun are in the Milky Way Galaxy.

gas - a fluid state of matter in which the atoms and molecules are more or less in random motion. A gas can expand indefinitely and so does not have a rigid shape and volume.

habitable or "Goldilocks" zone - a zone around a star in which temperature conditions are favorable for liquid water.

inertia - the tendency of an object to resist a change in its current state of motion. An object at rest will stay at rest unless forced to move, just as an object in motion will stay in motion unless forced to change its motion.





liquid - a fluid state of matter. The particles move and can freely form a distinct surface at boundaries of the fluid.

Kuiper Belt - the region in the solar system beyond the orbit of Neptune. It contains a large number of small, icy objects. Pluto is the most famous object in the Kuiper Belt. Comets also come from this region of space.

meteorite - a stony or metallic object from space that survives entry into the Earth's atmosphere and lands on the surface of the Earth.

molecule - a combination of two or more atoms. These combinations can contain the same type of atom (O_2 , or two oxygen atoms) or a variety of different ones (H_2O , or two hydrogen atoms and one oxygen atom).

observatory - a place for observing and studying astronomical objects and events.

orbit - the path followed by an object through its own inertia and under the influence of gravitational force from another body. The Earth orbits the Sun, and the Moon and the International Space Station orbit the Earth.

photosynthesis - a process by which plants gather sunlight and convert it into nutrients.

planet - a planet is an object that (a) orbits the Sun, (b) is massive enough to be round in shape, and (c) is the dominant object in its orbit around the Sun. There are eight planets in our solar system: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.

solar system - a system of planets, moons, asteroids, comets and other small objects that orbit a central star. The Sun is the only star in our Solar System.

stable environment - a place where the surrounding conditions remain relatively unchanged over a prolonged period of time.

sublimation - the process in which a substance changes state from a solid directly into a gas and skips the liquid phase.

telescope - an instrument that uses lenses and/or mirrors to gather and focus light for observation. For the purposes of astronomy, telescopes allow the viewer to study distant objects in much greater detail by making them appear larger, brighter, and sharper than what is seen with the naked eye. There are two main families of telescopes: reflecting telescopes, which use mirrors, and refracting telescopes, which use lenses.

water cycle - the continuous transformation of water to solid, gas, or liquid on the surface of the Earth, in the atmosphere, and below the Earth's surface.

