

Basic Definitions

Note: The first online quiz is based on these definitions.

Asteroid

A small, rocky body that orbits the Sun. Also called **planetoid** and **minor planet**.

Atmosphere

The shell of gases that surround a planet or moon, held in place by the force of gravity.

Cloud

Any distinct mass of gas or other small particles of matter, characterized by low density, anywhere in space. On Earth specifically, a visible mass of condensed water droplets suspended in the atmosphere above the surface. The word can also be applied to a vast, unstructured group of stars, such as the Cygnus Star Cloud.

Comet

An icy object in an independent orbit about the Sun that is smaller than a planet, usually having a highly elongated orbit extending out beyond Jupiter, or a similar object in any other solar system.

Constellation

A grouping of stars which form a pattern officially recognized and assigned a strict boundary in the night sky by the International Astronomical Union.

Crater

A bowl-shaped impression on a surface made by a volcanic explosion or the impact of a body such as a meteoroid.

Exoplanet

A body of considerable mass that doesn't produce energy through nuclear fusion and orbits a different star than our Sun.

*The IAU definition of a **planet** (see below) refers specifically to planets of the Sun, but the word "planet" is widely used to refer to exoplanets. The IAU has not adopted a formal definition of an exoplanet.*

Galaxy

Vast star systems containing thousands of billions of stars, dust and gas, held together by gravity and dark energy.

Gas

A form of matter in which individual molecules or atoms are not bound to each other in a particular structure, characterized by rapid, random motion of the molecules or atoms.

IAU

International Astronomical Union, the worldwide organization of professional research scientists who work in the field of astronomy.

Ice

The solid form of water, in any of its many forms.

*Note: the word sometimes refers to the solid forms of similar chemicals, such as methane or ammonia, but is usually combined with the name of the chemical to avoid confusion, and thus the term **water ice** is sometimes used to emphasize the distinction from other chemicals.*

Light Year

The distance travelled by light in one year, at the speed of almost 300,000 km per second; the distance is about 9.5×10^{15} metres.

Meteor

Any observable manifestation in the sky, such as a visible streak, caused by a meteoroid as it burns up in Earth's atmosphere. Also known as a **shooting star** or **falling star**.

Meteorite

A rock of extra-terrestrial origin that survives its trip through a planet's atmosphere and lands on the planet's surface.

Meteoroid

A natural object of extra-terrestrial origin, smaller than an asteroid, that would become a meteor if it entered Earth's atmosphere.

Meteor Shower

An increased number of meteors appearing to radiate from a single area within a constellation at certain times of the year when Earth crosses the debris trail of comets.

Milky Way

The name of our own spiral galaxy; also, the band of light from the combined glow of stars that lie along the galaxy's plane, as seen in the night sky.

Moon

A naturally occurring satellite or relatively large body orbiting a planet.

Note: when used to refer to Earth's moon, it is capitalized as a proper noun and used with "the."

Naked Eye

Observing, or observations made, without the aid of optical instruments. Also called **Unaided Eye**, especially when it's necessary to pass through filters that look for inappropriate language.

Orbit

The path of a celestial body around another, or around a common centre of gravity, due to the influence of gravity.

Planet

A celestial body that

- a. is in orbit around the Sun,
- b. has sufficient mass for its self-gravity to overcome rigid body forces so that it assumes a hydrostatic equilibrium (nearly round) shape, and
- c. has cleared the neighbourhood around its orbit.

Note: this is the formal definition authorized by the IAU in 2006 which has become part of the controversy about whether Pluto deserves to be a planet or not. Another controversial point is whether the definition should acknowledge that planets have been discovered around other stars.

Revolution

The movement of large masses around the center of mass of a system, for example the movement of a moon around a planet or a planet around a star. *Contrast with rotation.*

Ring

A system of usually small objects or particles, such as ice, rock or even molecules, that orbit a larger object in such a way as to form a thin section of a disk with a uniform outer diameter and uniform inner diameter.

Rock

A naturally occurring solid object or substance composed of minerals and classified according to mineral composition.

Rotation

The movement of a body in such a way that any given point of that body remains at a constant distance from some other fixed point. *Contrast with revolution.*

Satellite

An object in space that orbits another, larger, object.

*Note: the word usually refers to an **artificial satellite**, a technological artifact launched under power into an orbit. A natural satellite is usually called a moon.*

Solar system

A group of planets and other bodies that orbit a central star.

*Note: when referring to the Sun and its planets specifically, it is customary to refer to it as "**the** solar system."*

Star

A large sphere of gas, found in outer space, that is glowing because it produces energy through nuclear fusion.

Note: In ancient times, the word "star" included the visible planets and almost any phenomena in the sky, even meteors ("shooting stars" or "falling stars"). Although the Sun is a star, sometimes it is not included when someone refers to "the stars."

Surface

Any two-dimensional shape that is a boundary between two different regions that differ significantly in their properties, usually density.

Note: This applies not only to the obvious surface of a planet, but also to surfaces of stars or gas planets, and also to internal surfaces. Although we tend to think of a surface as a place to stand on, that's not always the case.

Unaided Eye

Observing, or observations made, without the aid of optical instruments. Also called **Naked Eye**, but that word is a problem for content filters that look for inappropriate language.

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