

Earth, Moon, and Sun

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Glossary

A page number in boldface type indicates the page on which the word is defined in the text.

asteroid rocky space object that revolves around the Sun, mostly in a region between Mars and Jupiter (3, 13)

atmosphere layer of gases surrounding a planet (2, 3, 6, 7, 13, 14)

axial tilt angle at which a planet's axis tilts (11)

axis imaginary line that runs from a planet's north pole to its south pole on which the planet rotates (8, 10–14, 16)

chromosphere part of the Sun's atmosphere that is above the photosphere (6)

comet chunk of ice, rock, and frozen gases (3)

convection zone area of the Sun where energy is transferred by flowing gases (7)

core center part of the Sun that is the source of the Sun's energy (6, 7)

corona outer layer of the Sun's atmosphere (6, 19)

crater depression on the surface of a planet or moon caused by a meteorite impact (14, 21)

day length of time it takes for a planet to rotate once on its axis (3, 7, 8–12, 14–16, 20)

eclipse when one object in space moves into the shadow cast by another object (18, 19)

electromagnetic spectrum all of the types of electromagnetic radiation (7)

ellipse an elongated circle; oval (10, 11)

equinox when the Sun's rays directly strike the equator and both hemispheres have 12 hours of daylight and 12 hours of darkness (12)

galaxy system of stars, dust, and gases held together by gravity (4, 6)

gravity universal force that attracts, or pulls, all objects that have mass toward one another (5, 16, 17)

highlands hilly areas of the Moon that appear as light patches (13, 14)

hydrosphere all of Earth's water (2)

International Date Line imaginary line passing through the western Pacific Ocean that marks the start of a new day (9)

latitude distance north or south of the equator, expressed in degrees (12)

law of universal gravitation gravity exists between any two objects with mass, and the strength of gravity depends on the mass of the objects and the distance between them (5)

light-year distance that light can travel in one year (4)

lithosphere Earth's rigid outer layer (2)

lunar eclipse when the Moon moves into Earth's shadow (18, 19)

maria smooth, flat plains on the Moon that appear as dark patches (13, 14)

meteoroid space rock smaller than an asteroid (3)

moon natural satellite that revolves around a planet (3, 13, 20); Earth's Moon (13–20)

neap tides high tides that are lower than normal and low tides that are higher than normal due to the Sun and Moon being at a right angle to Earth (17)

nuclear fusion reaction in the Sun when four hydrogen atoms fuse together, or combine, to form helium, producing huge amounts of energy (6)

orbit path an object takes when revolving around another object (3, 5, 7, 10–19, 21)

penumbra lighter part of the shadow cast by Earth or the Moon during an eclipse (18, 19)

phases changes in the appearance of the Moon as it orbits Earth (15)

photosphere lowest layer of the Sun's atmosphere that gives off light (6)

planet large sphere in space that revolves around a star and does not produce its own light (2, 3, 5, 8, 10, 20, 21)

prominence huge loop of glowing gas that extends out from the Sun (6)

radiation zone area of the Sun where energy is transferred by electromagnetic waves (7)

revolution act of moving in a curved path or orbit around another object (3, 10, 11, 14, 15, 17, 20)

rotation act of turning or spinning on an axis (7, 8–10, 14, 16)

satellite object that revolves around another object (3, 5, 7, 10, 13, 14, 21)

season periodic change in climate caused by the change in solar energy due to the axial tilt of Earth as Earth orbits the Sun (11, 12, 17, 20)

solar eclipse when Earth moves into the Moon's shadow (19)

solar energy energy from the Sun (6, 11)

solar flare intense bursts of energy on the Sun that occur when built-up electromagnetic energy is released (7)

solar system a star and the planets, moons, and other objects that revolve around it (3–6, 14, 20)

solar wind charged particles that escape from the Sun's corona and travel through space (6)

solstice two times of year when the Sun's direct rays strike Earth the farthest north or south of the equator (12)

spectrometer instrument that splits a star's visible light into a band of colors, used to determine a star's composition (7)

spring tides high tides that are higher than normal and low tides that are lower than normal due to the Sun and Moon lining up with Earth (17)

star enormous sphere of glowing gases that gives off heat and light (4, 6, 7, 10, 12, 19, 21)

Sun name for the star at the center of our solar system (2, 3–12, 14, 15, 17–21)

sunspot cooler regions in the Sun's photosphere (7)

telescope instrument used to study distant objects; it creates larger images of distant objects (7, 14, 20, 21)

tidal range difference between the level of the ocean at high tide and at low tide (16, 17)

tide regular rise and fall of the ocean's surface (16, 17)

time zone one of the 24 standard zones into which Earth is divided, corresponding to the 24 hours in a day (9)

umbra darkest part of the shadow cast by Earth or the Moon during an eclipse (18, 19)

universe all of space, including all of the matter and energy within it (4, 5, 21)

waning growing smaller in appearance (15)

waxing growing larger in appearance (15)

weight measurement of the pull of gravity on an object (5)

year length of time it takes for a planet to make one complete revolution around the Sun (3, 4, 6, 10–12, 14, 19)