Unit: 5. ASTRONOMY

VOCABULARY

absolute magnitude	the brightness of a star if it were viewed from a distance of 32.62 light years
aphelion	farthest point from the Sun in a planet's orbit
apparent magnitude	the brightness of a star when viewed from Earth
asteroid	small, rocky objects that orbit the Sun, primarily found between the orbits of Mars and Jupiter
asteroid capture theory	theory that the moon is a large rock captured by Earth's gravity
astrobiology	the study of the origins, distribution, and future of life in the universe
astronomical unit	a unit of measurement based on the average distance of the earth from the sun; one unit equals 149.6 million kilometers
black hole	a region of space with matter so dense that light cannot escape it
chromosphere	lower layer of the Sun's atmosphere
co-formation theory	theory that the moon developed at the same time as Earth from the solar nebula
convective zone	region within the Sun where energy moves through circulating streams of gas molecules
core	center of the Sun where nuclear fusion occurs
corona	outer layer of the Sun's atmosphere

cosmology	the study of the origin, structure, and future of the universe
dark energy	unexplained force proposed to explain the acceleration of the expansion of the universe
dark matter	a hypothesized form of matter that does not emit enough radiation to be detected directly but whose presence is inferred from its gravitational effects and may account for the unexpected velociities of stellar oribts in galaxies
dwarf planet	an object that orbits the sun and is large enough for its gravity to make it spherical but that is too small to have cleared its orbit of all other large objects
elliptical galaxy	a galaxy whose stars are symmetrically dispersed in a spherical or elongated shape
equinox	one of the two times each year when the Sun is directly overhead the equator; usually around March 21 and September 22
exoplanet	a planet that orbits a star other than the Sun
galaxy	a large-scale collection of stars, dust, and gas held together by gravity
gas giants	the four outer planets of the Solar System; named for their high concentrations of hydrogen and helium
impact theory	theory that the moon formed from debris produced by the collision of a Mars-sized planetesimal with Earth
irregular galaxy	a galaxy formed by the collision of other galaxies
luminosity	the amount of radiant energy that a star produces
main sequence star	a star that is fueled by hydrogen fusion into helium
nebula	enormous cloud of gas and dust in space
perihelion	closest point to the Sun in a planet's orbit
photosphere	surface of the Sun

planet	an object that orbits the Sun, is spherical, and has cleared its orbit of other large objects
planetary nebula	a cloud of gases and dust that surrounds a white dwarf
planetesimals	rocky objects that aggregate into planets
protostar	a mass of hydrogen and helium gas that collects gases and heats until hydrogen fusion begins
radiative zone	middle layer of the Sun's interior
red dwarf	small main sequence star that fuses hydrogen for tens or hundreds of billions of years
red giant	a star that has expended its hydrogen fuel, expanded in size, and begun fusing helium or heavier elements in its core
solar mass	the mass of the Sun; used to measure the masses of stars
solar nebula	the cloud of gas and dust from which the Solar System developed
solstice	the time when the Sun is directly overhead either its northernmost or southernmost point on Earth; usually around June 21 in the northern hemisphere and December 21 in the southern hemisphere
spiral galaxy	a galaxy with a central bulge, flattened disk, and curving arms
subsolar point	the point on Earth where the Sun is directly overhead
supernova	a red supergiant that collapses and explodes after it has expended its fuel for nuclear fusion reactions
terrestrial planets	the four inner planets; named for their rocky crusts
Tropic of Cancer	the northernmost latitude where the Sun can be directly overhead, approximately 23.5 degrees north
Tropic of Capricorn	the southernmost latitude where the Sun can be directly overhead, approximately 23.5 degrees south

white dwarf	a former red giant star that has completed helium fusion, collapsed, and is cooling