

# Aryabhat Astronomy Quiz

## Glossary of Terms related to Astronomy & Space Science

Term	Description
aberration	in optics, an imperfect focus caused when a mirror or lens fails to bring light to a sharp focus
absolute magnitude	the apparent brightness an object would have if it were 10 parsecs (32.6 light-years) from earth
absolute zero	the coldest theoretical temperature, equal to 0 kelvin (-459.67°f or -273.15°c)
absorption lines	dark lines in a spectrum caused by the absorption of light by atoms or molecules in a star or planet's atmosphere
accretion disk	a disk surrounding a black hole or star in which matter gravitationally falls onto the central object
achromatic lens	a two-element lens, or doublet, that significantly reduces chromatic aberration
active galactic nuclei	the exceptionally bright cores of some galaxies, thought to be fueled by matter falling into supermassive black holes
active galaxy	a galaxy emitting unusually big amounts of energy from a compact central source
active optics	the techniques by which corrections are made to the shape of a large mirror or radio dish to adjust for minute distortions in its shape. these variations arise as a telescope is subjected to forces such as gravity and temperature changes.
adaptive optics	a system of telescopes, computers, and deformable mirrors used to compensate for atmospheric blurring
airy disk	the bright disk-like image of a point source of light, such as a star, as seen in an optical system with a circular aperture
albedo	the percentage of light that an object reflects
altazimuth mount	a mount that enables a telescope to move freely both vertically (in altitude) and horizontally (in azimuth)
altitude	the height above sea level
anaglyph	a stereoscopic, composite image in which the right component (usually red in color) is superimposed on the left component (usually blue) to produce a three-dimensional effect when viewed through correspondingly colored filters
andromeda galaxy	the largest member of the local group of galaxies; roughly twice the size of the milky way; also known as m31
angular size	the apparent width of an object as seen by an observer, usually expressed in degrees, arcminutes, or arcseconds
anisotropies	differences in physical properties depending on direction
anisotropy	the variation of a physical property depending on direction
annular eclipse	a solar eclipse in which the moon does not fully cover the sun's disk, allowing observers to see a thin ring of sunlight
antimatter	matter consisting of particles that have the same mass and properties as their matter counterparts but opposite electrical charges
anti-tail	the name given to a comet's tail when it points toward the sun. this rare event typically occurs when earth crosses the plane of the comet's orbit and the comet is relatively close to the sun.
aperture	the diameter of a telescope's primary lens or mirror; the larger the aperture, the greater the telescope's light-gathering power
aphelion	the point farthest from the sun in an object's orbit
apochromatic lens	a lens with three or more elements that reduces chromatic aberration even more than an achromatic lens
apogee	the point in a satellite's orbit when it is farthest from earth

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apollo	1. u.s. space program that sent astronauts to the moon in the 1960s and '70s 2. an asteroid with a perihelion less than 1.017 au (and thus comes within the orbit of earth)
apparent field of view	the angular diameter of the circle of light that the eye sees through an eyepiece
apparent magnitude	the measure of the brightness of an object as seen from earth
apparition	the period of time during which a particular celestial object can be seen
archeoastronomy	the study of physical artifacts with astronomical connections
arcminute	a unit of angular size equal to 1/60 of a degree; abbreviated by '. arcminutes are used to measure of the separation between two sky objects or the angular size of an object.
arcsecond	a unit of angular size equal to 1/3,600 of a degree (or 1/60 of an arcminute); abbreviated by ". arcseconds are used to measure of the separation between two sky objects or the angular size of an object.
asterism	a small grouping of stars in the night sky
asteroid	a small, rocky body that orbits a star
asteroid belt	the zone in which most asteroids orbit the sun, located between the orbits of mars and jupiter
astrometry	the study of the positions and motions of celestial objects
astronomical unit	the average distance from earth to the sun, equal to about 93,000,000 miles (150,000,000 km)
astronomical units	a measurement used by astronomers within the solar system; one astronomical unit (au) is the average distance between earth and the sun (about 93,000,000 miles or 150,000,000 kilometers)
astronomy	the branch of science concerned with objects beyond earth
astrophotography	the photography of astronomical objects
astrophysics	the branch of astronomy that deals with the physical characteristics of celestial objects
atmosphere	a gaseous envelope surrounding a moon, planet, or star
atom	the fundamental unit of matter; can consist of protons, neutrons, and electrons
atomic nucleus	the central region of an atom; can consist of protons and neutrons
attitude	the orientation of a spacecraft relative to the direction of its motion
au	a measurement used by astronomers within the solar system; one astronomical unit (au) is the average distance between earth and the sun (about 93,000,000 miles or 150,000,000 kilometers)
aurora	the emission of light when charged particles from the solar wind slam into and excite atoms and molecules in a planet's upper atmosphere
aurora australis	the southern lights; see definition for aurora
aurora borealis	the northern lights; see definition for aurora
aurorae	the plural of aurora (the emission of light when charged particles from the solar wind slam into and excite atoms and molecules in a planet's upper atmosphere)
autoguider	a ccd camera used to automatically guide a telescope during long-exposure photography
autumnal equinox	the time of year around september 23 when the sun crosses the celestial equator heading south
averted vision	a technique that uses the more light-sensitive rods in the eye to better see a faint object by looking at it indirectly

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axis	a straight line about which an object rotates
azimuth	the angle along the horizon measured eastward from due north to the point on the horizon directly below an object
barlow lens	a lens attached behind the eyepiece of a telescope that increases magnification
barnard's star	a red dwarf in the constellation ophiuchus that has the highest proper motion than any other known star; it was discovered by e. e. barnard in 1916
barred spiral galaxy	a spiral galaxy with a central bar consisting of stars and gas
baryonic	made up of baryons (elementary particles such as protons and electrons)
baryonic matter	"normal" matter composed of elementary particles called baryons
baryons	elementary particles such as protons and neutrons composed of three quarks
baseline	the line between two observational points or two telescopes of an interferometer
big bang	the giant explosion that is theorized to have created the universe 10 billion to 20 billion years ago
billion	1,000,000,000 (in american usage)
binary star	a system of two stars that orbit a common center of gravity: also known as a double star
binoculars	a small, usually hand-held instrument with two tubes that is used to magnify the view of astronomical objects; the two numbers used to describe the binoculars refer to its magnification and its aperture in millimeters, respectively
black hole	a region of space where gravity is so powerful that not even light can escape; black holes can form either from the death of high-mass stars or in the cores of galaxies
blazar	a high-energy, variable type of quasar which astronmers believe has a jet of material aimed in our direction that causes it to appear more energetic than other quasars
blink comparator	an instrument that allows astronomers to view two images of the same region of sky simultaneously. objects that have changed their brightness or position appear to stand out of the plane of the picture.
blueshift	a decrease in the wavelength of light coming from an object due to its motion toward earth
bok globule	a small, dark nebula thought to be a region of star formation
bolide	a brilliant meteor or fireball that explodes in mid-air
bolides	brilliant meteors or fireballs that explode in mid-air
bose-einstein condensate	atoms crowded close together in ultra-low temperatures that behave as if they were one fluid-like super atom
brown dwarf	a gaseous object that forms like a star but lacks the necessary mass to sustain nuclear fusion in its core; a body intermediate in mass between a star and planet
buckyball	a naturally occurring form of carbon known as c-60, its molecular structure resembles the geodesic domes once designed by buckminster fuller
bulge	the generally spherical, central region of a spiral galaxy
cannibal coronal mass ejections	fast-moving solar eruptions that appear to overtake and often devour their slower-moving kin
carbon star	a red giant star with much more carbon than oxygen in its surface layers
carbonaceous chondrites	a class of stony meteorites and asteroids which contain organic (carbon) compounds and may be the most primitive samples of the early solar system

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cassegrain telescope	a reflecting telescope in which a secondary mirror reflects light back through a hole in the center of the primary mirror
cataclysmic variable	a close binary system which includes a white dwarf accreting matter from a less massive companion
catadioptric telescope	a telescope that combines the primary mirror of a reflector with a lens placed in front of the mirror that corrects for aberrations; most catadioptric telescopes for amateurs are schmidt-cassegrain telescopes
ccd	a silicon chip used to detect light; charge-coupled devices (ccds) are far more efficient at collecting light than conventional film
celestial pole	the imaginary projection of earth's rotational axis onto the celestial sphere
celestial sphere	the apparent sphere of the sky; an imaginary sphere of immense radius centered on earth often used to plot the coordinates of objects in the sky
cepheid variable	a class of luminous stars that vary in brightness; used to calibrate distances to galaxies
chandrasekhar limit	the maximum mass of a white dwarf star, equivalent to 1.4 solar masses
charge-coupled device	a silicon chip used to detect light; charge-coupled devices (ccds) are far more efficient at collecting light than conventional film
charles messier	a french astronomer and comet hunter who discovered 13 comets independently and codiscovered a half-dozen others. while hunting for comets, messier compiled a list of fuzzy objects that were not comets in order to avoid them. these catalog entries were later identified as star clusters, nebulae, and galaxies and became the messier catalog. published in various versions beginning in 1771, the catalog grew to 103 objects by 1781. charles messier lived from june 26, 1730, to april 12, 1817.
chondrite	a stony meteorite containing small, round, silicate granules called chondrules
chromosphere	a layer in a star's atmosphere lying below the corona and above the photosphere
circumpolar	circumpolar stars are permanently above the horizon from a given observing point on earth; that is to say, they never set. at earth's geographical north pole (90°north latitude), all stars in the sky are circumpolar. on earth's equator, no stars are circumpolar.
clock drive	a motor attached to an equatorial mount that compensates for earth's rotation and thus keeps the telescope pointing at the same area of sky
cme	huge eruptions of electrified, magnetic gas ejected from the solar corona; this gas is hurled into space with speeds from 12 to 1,250 miles per second (about 20 to 2,000 kilometers per second); cmes can produce geomagnetic storms and auroral displays on earth
coated optics	optics treated with a thin, uniform coating that greatly reduces scattered light and thus makes the image brighter
collapsar	a giant star that collapses of its own weight at the end of its normal lifetime
collimation	the act of putting a telescope's optics into perfect alignment
coma	the bright shroud of gas that surrounds a comet's nucleus
coma berenices	a constellation between bootes the herdsman and leo the lion. coma berenices is an attractive swarm of stars known as berenice's hair.
comet	a small piece of ice and rock that orbits a star usually in a highly elongated orbit; long-period comets have orbital periods longer than 200 years, short-period comets have orbital periods less than 200 years
comet nucleus	a solid, compact mass of rock and ice that heats up when exposed to sunlight and releases gas and dust

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conjunction	a time when two or more bodies appear close together in the sky
constellation	one of the 88 patterns of stars in the sky, often named for a mythological god, hero, or animal
convection	the transfer of heat energy by moving currents of material
core	the central region of a planet, brown dwarf, star, or galaxy
corona	the outer atmosphere of the sun or a star
coronagraph	an instrument designed to block light from the solar disk, allowing the corona to be observed
coronagraphic mask	a disk-shaped instrument designed to block light from the disk of a star, allowing the region very close to a target star to be studied
coronal mass ejection	a huge eruption of electrified, magnetic gas ejected from the solar corona; this gas is hurled into space with speeds from 12 to 1,250 miles per second (about 20 to 2,000 kilometers per second); cmes can produce geomagnetic storms and auroral displays on earth
coronal mass ejections	huge eruptions of electrified, magnetic gas ejected from the solar corona; this gas is hurled into space with speeds from 12 to 1,250 miles per second (about 20 to 2,000 kilometers per second); cmes can produce geomagnetic storms and auroral displays on earth
cosmic background radiation	microwave radiation that permeates the universe and represents the still-cooling heat generated from the big bang
cosmic microwave background	microwave radiation that permeates the universe and represents the still-cooling heat generated from the big bang
cosmic ray	an atomic nucleus (most are protons) moving at a speed approaching that of light
cosmological constant	a term in the equations of general relativity that represents a repulsive force in the universe
cosmology	the branch of science concerned with the structure and evolution of the universe
cosmos	a synonym for universe
crater	a large, bowl-shaped dent in the ground. they can be caused by an explosion or the impact of a meteorite.
crescent	the phase of a planet or moon during which less than half the surface is illuminated
critical density	the density of the universe that provides just enough gravity to bring the expansion to a halt after an infinite time
crust	the thin, outermost geological layer of a planet, moon, or asteroid
cryovolcanism	the eruption of water and other liquid or vapor-phase volatiles, together with gas-driven solid fragments, onto the surface of a planet or moon due to internal heating
damocloid	a rare type of asteroid with an elliptical, comet-like orbit; named for the first one discovered, asteroid 5335 damocles
dark adaptation	the process by which the human eye becomes well-adjusted to seeing dim objects in the dark.
dark energy	a type of "negative gravity" that seems to play a role in the acceleration of universal expansion
dark matter	matter that exerts gravitational force but does not emit any detectable light or radiation; dark matter comprises most of the mass of the universe, but its exact nature remains unknown
dark nebula	a cloud of dust grains that is thick enough to obscure the light from background stars

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declination	the angular distance of a celestial object above or below the celestial equator; the celestial sphere equivalent of latitude
deep-sky objects	objects located beyond the solar system; consist of stars, nebulae, star clusters, and galaxies.
degree	1. a unit of angular size equal to 1/360 the circumference of the celestial sphere; the sun and full moon both appear around half a degree wide
degree angular scale interferometer (dasi)	a 13-element microwave interferometer, located at the nsf amundsen-scott south pole station, used to measure temperature and polarization in the cosmic microwave background
denison olmsted	denison olmsted (1791-1859) is credited with giving birth to meteor science after the 1833 leonid meteor storm over north america spurred him to study this phenomenon. he subsequently demonstrated that meteors are not an atmospheric phenomenon, but cosmic in origin. olmsted was born in east hartford, connecticut on june 18, 1791. he attended yale university and graduated with a degree in physics in 1813. in 1817, he became the chair of chemistry, mineralogy, and geology at the university of north carolina. he returned to yale in 1825 where he was appointed professor of mathematics and natural philosophy. olmstead had many academic pursuits on which he published several textbooks and papers before his death in new haven, connecticut on may 13, 1859.
density	the amount of mass per unit volume of an object or region of space
deuterium	an isotope of hydrogen; its nucleus, consisting of one proton and one neutron, has double the mass of the nucleus of ordinary hydrogen
diffraction	the spreading out of light as it passes the edge of an obstacle
dobsonian telescope	a telescope with a simple but stable altazimuth mount that rotates easily
doppler effect	the change in wavelength of radiation coming from a source that is moving toward or away from an observer; produces either a blueshift or redshift
dust	tiny particles floating in space
dwarf galaxy	a small galaxy containing a few million stars; the most common type of galaxy in the universe
dwarf planet	objects that are round and orbit the sun, just like planets do. however, dwarf planets are not able to clear their path around the sun.
dwarf star	a main-sequence or smaller star
eccentric	deviating from a circle (used to describe the shape of an orbit)
eccentricity	the extent to which a body's elliptical orbit deviates from a circle
eclipse	an event in which one body passes in front of another, blocking it partially or completely from view: a specific type of occultation
eclipsing binary	a binary star with an orbital plane oriented so that one star passes in front of the other, thus completely or partially blocking the light from the other star during each orbital period
ecliptic	the plane of earth's orbit around the sun; all the planets except mercury and pluto have orbits in nearly the same plane



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edwin hubble	edwin hubble was born in marshfield, missouri on november 20, 1889. he studied at the university of chicago and at oxford as a rhodes scholar. his interests turned to astronomy around 1914, but he delayed his entry into the field to enlist in the u.s. army in 1917. he served in france during world war i and returned to the united states to begin work at mount wilson observatory. there, he determined that other galaxies existed and were moving away from the milky way, proving that the universe was still expanding. he also discovered cepheid variable stars in the andromeda galaxy as well as other galaxies. by comparing these variable stars to stars in the milky way, hubble was able to determine that cepheids were far beyond the boundaries of our galaxy. it was these compelling discoveries that proved the universe was far greater than imagined.
ejecta	material thrown about by an impact or volcano
electromagnetic radiation	the various forms of light; includes radio waves, infrared light, visible light, ultraviolet light, x rays, and gamma rays
electromagnetic spectrum	the spectrum encompassing the entire range of electromagnetic radiation (light)
electron	a subatomic particle with a negative electric charge; electrons surround the atomic nucleus and are much less massive than protons or neutrons
electron volt	a unit of energy equal to the energy gained by an electron that falls through a potential difference of one volt; $1.60 \times 10^{-19}$ joule
element	a fundamental unit of matter; consists of a fixed number of protons, although the number of neutrons and electrons can vary
elliptical galaxy	a gravitationally bound system of stars in a spherical or elliptical shape with no spiral structure
elongation	the apparent angular separation of an object from the sun
emission	the discharge of electromagnetic radiation from an object
emission nebula	a cloud of extremely hot gas that is being illuminated from within by the radiation of energetic, young stars
ephemeris	a table that gives the positions of astronomical objects at certain intervals of time
equator	the circle around a planet or moon that is the same distance from its north pole and its south pole.
equatorial mount	a mount in which the declination axis sits on top of the polar axis, with the telescope on one end of the declination axis and a counterweight on the other
equinox	the two times of year when the sun crosses the celestial equator, giving day and night an equal 12-hour length everywhere on earth
escape velocity	the velocity an object or rocket needs to escape the gravitational clutch of a more massive object
evening star	the planet venus when it appears in the evening sky
event horizon	the boundary of a black hole from inside which light cannot escape
exit pupil	the image of the objective lens or primary mirror of a telescope formed on the eye side of the eyepiece
exobiologists	a person who studies the origin, development, and distribution of 'living' systems that may exist outside of earth
exoplanet	a planet that freely floats between stars or one that orbits a star outside our solar system.
extragalactic	beyond the milky way galaxy
extrasolar	beyond the sun

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extraterrestrial	beyond earth
eye relief	the distance between the eyeball and the lens nearest the eye of an eyepiece at which an observer can clearly see the entire field of view
eyepiece	a magnifying lens used to view the image produced by a telescope's primary lens or mirror.
far ultraviolet	ultraviolet radiation with the shortest wavelengths ("farthest" from visible light in the electromagnetic spectrum)
field of view	the area of sky visible in a telescope or binoculars
filter	a device that transmits light of only certain wavelengths; used by astronomers to observe specific wavelengths or to reduce the light of exceptionally bright objects
finder scope	a small, low-powered telescope attached to a larger telescope that helps the observer locate objects in the sky
fireball	an extremely bright meteor; generally brighter than magnitude -4
fireballs	extremely bright meteors; generally brighter than magnitude -4
first quarter	the phase of the moon a quarter of the way around its orbit from new moon; the eastern half is illuminated during this phase
flare	a sudden, violent outburst of energy from the surface of a star
focal length	the distance from a lens or mirror to the point where it brings light to a focus
focal ratio (f/ratio):	the ratio of the focal length of a lens or mirror to its diameter
focus	the point at which rays of light passing through a lens (or reflecting off a mirror) converge
focuser	the device on a telescope that holds an eyepiece and moves to allow an observer to bring light to a sharp focus
fork mount	an equatorial mount in which the telescope swings in declination between the two prongs of a fork
frequency	the number of wave crests or troughs that pass a particular point in a given interval of time (usually one second); usually expressed in hertz (cycles per second)
full moon	the phase of the moon when it is halfway around its orbit from new moon and opposite the sun in the sky; the full disk is illuminated
galactic disk	the disk of a spiral galaxy
galactic nucleus	the central region of a galaxy; often contains a high density of stars and gas, and a supermassive black hole
galactic plane	the projection of the milky way's disk on the sky.
galaxy	an enormous gravitationally bound assemblage of millions or billions of stars
galaxy cluster	a gravitationally bound assemblage of dozens to thousands of galaxies
galilean moons	jupiter's four largest moons: io, europa, ganymede, and callisto; discovered by galileo galilei in 1610
galilean satellites	jupiter's four largest moons: io, europa, ganymede, and callisto; discovered by galileo galilei in 1610
gamma rays	the form of light (electromagnetic radiation) with the shortest wavelength and the most energy
gamma-ray burst	a short, intense burst of high-energy radiation emanating from the distant universe
gas giant	a large planet made primarily of gas, such as jupiter, saturn, uranus, and neptune
general relativity	the theory of relativity governing accelerated motion that describes gravity as a curvature of space-time



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giant molecular cloud	interstellar clouds of cold gas and dust that contain tens or hundreds of thousands of solar masses
gibbous	the phase of the moon between first quarter and last quarter, when the moon appears more than half illuminated
globular cluster	a roughly spherical congregation of hundreds of thousands of stars; most globular clusters consist of old stars and exist in a galaxy's halo
gps	this stands for global positioning system. it is a system that uses satellites, ground stations, and receivers to tell you exactly where you are on earth.
gravitational lens	a massive object which magnifies or distorts the light from a more distant object along the same line of sight
gravitational lensing	the distortion or amplification of an object's light due to the presence of a massive object in the light path
gravitational waves	weak, wavelike disturbances which represent the radiation related to the gravitational force; produced when massive bodies are accelerated or otherwise disturbed
gravity	the attractive force that all objects exert on one another; the greater an object's mass, the stronger its gravitational pull
gravity waves	weak, wavelike disturbances which represent the radiation related to the gravitational force; produced when massive bodies are accelerated or otherwise disturbed
greenhouse gas	gases in the atmosphere that trap heat from the sun. some greenhouse gases are carbon dioxide, methane, water vapor, and nitrous oxide.
habitable zone (or ecosphere)	the zone around a star in which a planet can maintain liquid water on its surface
halo	the outer region of a galaxy; contains globular clusters, a few stray stars, and dark matter
heliacal rising	the period of time when an object, such as a star, is briefly seen in the eastern sky before dawn and is no longer hidden from the glare of the sun
heliosphere	a vast region around the sun dominated by the solar wind
helium	the second lightest element; consists of two protons, and usually two neutrons and two electrons; about 8 percent of the atoms in the universe are helium
hertz	a unit of frequency equal to one cycle per second
hertzsprung-russell diagram	a diagram that plots luminosity against temperature for a group of stars
hii region	an area filled with clouds of ionized hydrogen; the ionization is usually caused by radiation from newborn stars
hst	the hubble space telescope makes its observations from above earth's atmosphere. the telescope orbits 600 kilometers (375 miles) above earth, working around the clock. it was originally designed in the 1970s and launched in 1990. the telescope is named for astronomer edwin hubble.
hubble law	the principle that a distant galaxy's recessional velocity is proportional to its distance from earth
hubble space telescope	the hubble space telescope makes its observations from above earth's atmosphere. the telescope orbits 600 kilometers (375 miles) above earth, working around the clock. it was originally designed in the 1970s and launched in 1990. the telescope is named for astronomer edwin hubble.
hydrazine	a colorless liquid which burns rapidly and is used as a common rocket and missile fuel

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hydrogen	the simplest and lightest element; usually consists of just a single proton and electron; about 90 percent of the atoms in the universe are hydrogen
hypered film	film that has been treated, usually with gas, to enhance its response to low light levels
igneous rock	rock formed by the solidification of magma
inclination	the angle between a planet's orbit and the ecliptic plane; or the angle between a satellite's orbit and its host planet's rotational plane
inferior conjunction	the configuration of an inferior planet when it lies between the sun and earth
inferior planet	a planet that orbits the sun inside of earth's orbit; includes mercury and venus
inflation	a brief and extraordinarily rapid period of expansion a fraction of a second after the big bang
infrared	a form of light with slightly lower energy than visible light but with greater energy than radio waves
interacting galaxies	galaxies caught in each other's gravitational embrace, often results in galactic mergers or extreme star formation
interference fringes	a wave-like pattern resulting from the successful combination of two beams of light which amplifies the light
interferometer	a system of two or more widely separated telescopes that achieves the resolving power of a much larger telescope
interferometric fringes	a wave-like pattern resulting from the successful combination of two beams of light which amplifies the light
interferometry	the technique of using two or more widely separated telescopes to achieve the resolving power of a much larger telescope
intergalactic	the space between the galaxies
international space station	a global cooperative program between the united states, russia, canada, japan, and europe, for the joint development, operation, and utilization of a permanently habitated space station in low-earth orbit
interplanetary	the space between the planets
interstellar	the space between the stars of a galaxy
interstellar medium	the gas and dust located between the stars
ion	an atom that is electrically charged due to the loss or gain of one or more electrons
ionization	the process by which an atom gains or loses electrons
ionized gas	a gas that has been heated to a state where it contains ions and free-floating electrons; also known as a plasma
ionosphere	an atmospheric layer with a high concentration of ions and free electrons
irregular galaxy	a galaxy without a clearly defined spiral or elliptical shape
isotope	forms of an element in which the atoms all have the same number of protons but different numbers of neutrons
jet	a narrow stream of gas or particles ejected from an accretion disk surrounding a star or black hole
jet propulsion laboratory	the lead u.s. center for robotic exploration of the solar system, located in pasadena, california; jpl spacecraft have visited all known planets except pluto
jet stream	a high-speed, wandering wind current in the upper troposphere that blows from west to east and affects weather
jovian planet	a planet with characteristics similar to jupiter (see gas giant).

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Term	Description
kelvin	a unit of temperature equal to one degree on the celsius scale and 1.8 degrees on the fahrenheit scale; also, the absolute temperature scale defined so that 0 kelvin is absolute zero
kelvins	temperature units equal to degrees celsius; 0 on the kelvin scale is absolute zero
kuiper belt	a region in the outer solar system beyond neptune's orbit that contains billions of small, icy bodies; pluto is the largest known kuiper belt object
l chondrite	a chondrite (a stony meteorite containing small, round, silicate granules called chondrules) that has a low amount of iron
lagrange point	one of five locations in space relative to two bodies where a third, less massive body can maintain a stable orbit around a common center of mass
large magellanic cloud	an irregular galaxy that orbits the milky way galaxy
last quarter	the phase of the moon three-quarters of the way around its orbit from new moon; the western half is illuminated
latitude	the angular distance north or south from the equator to a point on earth's surface, measured on the meridian of the point
lens	a curved piece of glass that brings light to a focus
lenticular galaxy	a galaxy possessing a large bulge and small disk
libration	the small oscillations in the moon's motion that allow earth-based observers to see slightly more than half the moon's surface
light pollution	light, typically from artificial sources, which reaches the night sky, obscuring the view of faint astronomical objects
light-gathering power	the ability of a telescope to collect light; the larger a telescope's aperture, the greater its light-gathering power
light-year	the distance light travels in one year, equivalent to approximately 5.9 trillion miles (9.5 trillion km)
limb	the apparent edge of a celestial object
limiting magnitude	the apparent magnitude of the faintest objects that can be seen given the local observing conditions and any telescope, film, or other detector you may be using
liner galaxy	a low-ionization nuclear emission-line region galaxy belongs to a common class of otherwise normal galaxies that display low-ionization line emissions near their central regions
local group	the galaxy cluster containing roughly 35 galaxies to which the milky way galaxy belongs
local supercluster	the galaxy supercluster to which the local group belongs; it spreads over 100 million light-years and boasts the virgo cluster as its dominant member
longitude	the angular distance of a particular place on earth as measured east or west from the prime meridian running through greenwich, england
long-period comet	comets that have orbital periods greater than 200 years.
luminosity	the total amount of light that an object radiates
lunar eclipse	a phenomenon caused by the earth passing between the sun and moon
lunar month	the period of one complete revolution of the moon around earth, 29.5 days
lunation	the time between two successive new moons; approximately 29.5 days
magnetic field	the space around a magnet where the magnetic force is active. earth has a magnetic field and its extension into space helps protect us from space weather.

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## Glossary of Terms related to Astronomy & Space Science

Term	Description
magnetograph	an instrument that maps the strength, distribution, and direction of magnetic fields on the sun's disk
magnetometer	an instrument used to measure the strength and direction of a magnetic field
magnetopause	the boundary between earth's magnetic field and the solar wind
magnetosphere	the dynamic region around a planet where the magnetic field traps and controls the movement of charged particles from the solar wind
magnitude	the measurement of an object's brightness; the lower the number, the brighter the object
main sequence	the band of stars on a hertzsprung-russell diagram stretching from the upper left to the lower right; stars spend most of their lives in the main sequence phase, in which they are fusing hydrogen into helium in their cores
maksutov telescope	a catadioptric telescope that uses a deeply curved meniscus lens as the correcting plate
mantle	the portion of a planet's interior above the core but below the crust
mare	a dark and relatively smooth area on the surface of the moon or a planet.
mass	a measure of the total amount of matter within an object
mass	the amount of matter something is made of.
mass loss	the loss of mass by a star during its evolution; some of the causes of mass loss include stellar winds, bipolar outflows, and the ejection of material in a planetary nebula or supernova
matter	the stuff that everything is made of. atoms are a tiny bit of matter. big planets have lots of matter. even you are made of matter!
megaparsec	one million parsecs; equal to 3.26 million light-years
meridian	an imaginary circle on the celestial sphere that connects the zenith to the north (or south) celestial pole
messier catalog	a catalog of 107 bright deep-sky objects that belong to a catalog compiled by french astronomer charles messier in the 1700s
messier objects	a catalog of 107 bright deep-sky objects that belong to a catalog compiled by french astronomer charles messier in the 1700s
meteor	a flash of light that occurs when a meteoroid burns up in earth's atmosphere; also, popularly known as a shooting star
meteor shower	a period of enhanced meteor activity that occurs when earth collides with a swarm of meteoroids; an individual shower happens at the same time each year and has all its meteors appearing to radiate from a common point
meteor showers	a period of enhanced meteor activity that occurs when earth collides with a swarm of meteoroids; an individual shower happens at the same time each year and has all its meteors appearing to radiate from a common point
meteor storm	meteor storms are rare events that occur when earth encounters dense regions within a meteor stream. such encounters can increase normal meteor rates by more than 1,000 meteors per minute.
meteorite	a rock from space that survives passage through earth's atmosphere and falls to the ground
meteoroid	a small rock that orbits the sun
microgravity	a condition in which the force of gravity is exceptionally low, producing a near-weightless environment
microlensing	the effect of gravity from a small astronomical body or bodies focusing light rays, similar in manner to lenses

# Aryabhat Astronomy Quiz

## Glossary of Terms related to Astronomy & Space Science

Term	Description
micron	one-millionth of a meter
microwaves	the most energetic form of radio waves
milky way	the band of light that encircles the entire sky and results from the combined light of billions of stars in our galaxy's disk
milky way galaxy	the spiral galaxy to which earth belongs
million	1,000,000 (in american usage)
millisecond pulsar	a neutron star that rotates hundreds of times per second, which typically accretes matter from a stellar companion
minor planet	a rocky body that orbits the sun; also known as an asteroid
mirror	a piece of glass coated with a highly reflective material
molecule	a combination of two or more atoms that represents the smallest part of a compound that has the chemical properties of that compound
moon	a smaller body orbiting a larger body; often refers to earth's moon
morning star	planet venus when it appears in the morning sky
motor drive	see clock drive
multicultural astronomy	the variety of ways in which cultures of the past and present have observed, recorded, interpreted, and made use of astronomy to structure their lives and/or satisfy their curiosity about the universe
multiple star system	a gravitationally bound system in which two or more stars orbit a common center of mass.
muses-c	the muses-c mission will investigate an asteroid known as an earth-approaching type. through this mission, the institute of space and astronautical science (isas) in japan intends to establish the technology to bring back samples of an asteroid's surface to earth. muses stands for a series of missions performed launched by the mu rocket and c means the third mission of this series.
naked-eye	something visible or accomplished without the aid of binoculars or a telescope (e.g. a naked-eye object or naked-eye observing)
near-infrared	light from the part of the infrared band of the electromagnetic spectrum closest to the visible range
nebula	a cloud of interstellar gas and dust; some nebulae represent stellar nurseries; others represent stellar graveyards
neutrino	a subatomic particle produced in nuclear reactions and in supernovae that very rarely interacts with matter; neutrinos have no electrical charge and travel at or very close to the speed of light
neutron	a subatomic particle with no electric charge that resides in an atomic nucleus; it has about the same mass as a proton
neutron star	the collapsed, extraordinarily dense, city-sized remnant of a high-mass star
new moon	the phase in which the moon is in the same direction as the sun in earth's sky, so it is unilluminated and invisible
newtonian telescope	a reflecting telescope in which a flat secondary mirror (called the diagonal) in the center of the tube reflects light to a focus outside the tube
ngc	new general catalogue, a 19th-century compendium of deep-sky objects such as galaxies, globular clusters, and nebulae
ngc objects	deep-sky objects such as galaxies, globular clusters, and nebulae included in the new general catalogue
north celestial pole	the point in the sky to which earth's geographical north pole points

# Aryabhat Astronomy Quiz

## Glossary of Terms related to Astronomy & Space Science

Term	Description
nova	an explosion on the surface of a white dwarf that is accreting matter from a companion star, which causes the system to temporarily brighten by a factor of several hundred to several thousand
nuclear fusion	the process by which two atomic nuclei combine to form a heavier atomic nucleus; this is the energy source that causes most stars to shine
nucleosynthesis	the creation of heavy elements from lighter ones by nuclear fusion
nucleus	the central region of an atom, comet, or galaxy
ob association	a loose grouping of o and b stars, which are the most luminous, most massive, and shortest-lived stars
objective	a telescope's primary lens or mirror that gathers light and brings it to a focus
obliquity	the angle between a planet's equator and the plane of its orbit
occultation	the passage of one object in front of a smaller one, temporarily obscuring all or part of the background object from view
omega	1. the ratio of the density of the universe to the critical density 2. the 24th letter of the greek alphabet
omega centauri	a massive globular cluster in the southern constellation centaurus located about 17,000 light-years from earth; also known as ngc 5139
omega nebula	one of the milky way's numerous stellar nurseries, the omega nebula is about 5,000 light-years from earth and can be seen in the constellation of sagittarius the archer. it is also known as the swan nebula, m17, ngc 6618, the horseshoe nebula, and the lobster nebula.
oort cloud	a cloud of cometary nuclei that surrounds the sun at a distance of many thousands of astronomical units
open cluster	a system containing a few dozen to a few thousand stars that formed from the same stellar nursery
opposition	the moment when a planet farther from the sun than earth appears opposite the sun in the sky; it is the best time to observe a planet
optical double	two stars at different distances that lie along nearly the same line of sight and thus appear close together
optics	the study of light and its properties; or lenses and mirrors
orbit	the path an object follows around a more massive object or common center of mass; usually elliptical in shape
orbital period	the length of time it takes one body to orbit another
o-type star	a hot, massive blue star that emits strongly at ultraviolet wavelengths and has a surface temperature between about 28,000 to 40,000 kelvins
outgassing	the release of gas from a rocky body
ozone layer	a part of earth's atmosphere that absorbs lots of the sun's ultraviolet radiation. it is made of a gas called ozone, which is a molecule of three oxygen atoms.
pahs	polycyclic aromatic hydrocarbons (pahs) are a class of very stable organic molecules. they are flat molecules made only of carbon and hydrogen atoms. pah molecules are quite common and highly carcinogenic. they are one of the by-products of combustion from automobiles and airplanes, and some are present in charcoal broiled hamburgers.
parallax	the apparent shift of a relatively nearby object against a fixed background due to the motion of the observer; astronomers observe the parallax of stars to measure their distances



# Aryabhat Astronomy Quiz

## Glossary of Terms related to Astronomy & Space Science

Term	Description
parsec	the distance an object would have to be from earth so that its parallax when viewed from two points separated by 1 au would be one arcsecond; equal to 3.26 light-years.
patera	an irregular, saucer-shaped volcanic structure
penumbra	1. the region of a shadow from which part of the light source remains visible 2. the lighter region of a sunspot surrounding its dark center (umbra)
penumbral eclipse	an event that occurs when the moon passes into the outer ring of earth's shadow (penumbra), causing a slight shading in the moon's appearance
periastron	the point in an object's orbit at which it is closest to the star it orbits
perigee	the point in a satellite's orbit when it is closest to earth
perihelion	the point in an object's orbit when it is closest to the sun
period	the time interval for a regular event to take place
periodic comet	a comet that has been seen to orbit the sun more than once (comet halley was the first recognized as periodic)
phase	the regular cycle of changes in the appearance of a moon or planet
photometer	a detector that measures the amount of light coming from an object
photometry	the measurement of light intensities
photons	individual "particles/waves" of light
photosphere	the visible surface of the sun
photovoltaic	conversion of light energy into electricity
pixel	short for "picture element," the individual light detectors on a ccd chip
planck scale	the smallest units of measurement scientists use to describe the universe; a planck unit of length is $10^{-33}$ centimeters
planet	a large rocky or gaseous body that orbits a star
planet	a large body in outer space that circles around the sun or another star in a clear orbit.
planetary nebula	a glowing shell of gas ejected by a dying, low-mass star
planetary nebulae	glowing shells of gas ejected by dying, low-mass stars
planetesimals	asteroid-size bodies in a young planetary system that collide to form larger bodies
planisphere	a two-dimensional map of the sky with an adjustable overlay to show the part of the sky visible at any time of the night or year
plasma	a gas that has been heated to a state where it contains ions and free-floating electrons; also known as ionized gas
plasmasphere	a region of cold, high-density plasma above the ionosphere
plate tectonics	a theory that describes how earth's crust is broken into plates and how those plates move across earth's surface
polar cap	an icy region at the north or south pole of a planet
polarization	a state in which the directions of the electric or magnetic field in an electromagnetic wave changes in a regular pattern; light from celestial objects is often polarized
polycyclic aromatic hydrocarbons	polycyclic aromatic hydrocarbons (pahs) are a class of very stable organic molecules. they are flat molecules made only of carbon and hydrogen atoms. pah molecules are quite common and highly carcinogenic. they are one of the by-products of combustion from automobiles and airplanes, and some are present in charcoal broiled hamburgers.

# Aryabhat Astronomy Quiz

## Glossary of Terms related to Astronomy & Space Science

Term	Description
position angle	the direction in the sky of one celestial object from another, measured eastward from due north
power	the ability of a telescope or binoculars to increase the apparent size of a distant object
poynting-robertson effect	a drag on interplanetary particles caused by their interaction with solar radiation, which causes the particles to lose orbital momentum and spiral into the sun
precession	the slow, periodic change in the direction an object's rotational axis caused by the gravitational influence of another body
primary lens	a telescope's main lens which gathers light and brings it to a focus
primary mirror	a telescope's main mirror which gathers light and brings it to a focus
prime meridian	the line of longitude that runs through greenwich, england
prism	a wedge-shaped piece of glass that breaks white light into its constituent colors
prograde	objects that move or appear to move in the same direction of most solar system bodies, or for moons, the same direction as the planet rotates
prominence	a large eruption of gas streaming off the surface of the sun into the corona
proper motion	the apparent yearly motion of a star across the sky
proton	a subatomic particle that resides in an atom's nucleus and possesses a positive electric charge
protoplanet	a body that is accreting gas, dust, and rocks enroute to becoming a full-fledged planet
protoplanetary disk	a disk of gas and dust that surrounds a newborn star; planets form from collisions of particles inside the disk
protostar	a cloud of hot, dense gas and dust that is gravitationally collapsing to form a star
proxima centauri	the nearest star to the sun at a distance of 4.2 light-years
pulsar	a rapidly rotating neutron star that bathes earth in regular pulses of electromagnetic radiation
quadrillion	1,000,000,000,000,000 (in american usage)
quantum mechanics	the physical laws that describe the behavior of matter at the atomic and subatomic level
quasar	the highly energetic core of a young galaxy thought to be powered by a supermassive black hole; short for quasi-stellar object
radial velocity	the velocity of an object toward or away from an observer
radiant	1. the point in the sky from which the meteors belonging to a meteor shower appear to originate 2. vividly bright and shining
radiation	electromagnetic waves (in astronomical usage)
radiation pressure	an exceedingly small amount of pressure exerted on a surface by light or other electromagnetic radiation
radio galaxy	a galaxy that emits an unusually large amount of radio waves
radio telescope	a telescope designed to detect radio waves coming from space
radio waves	the form of light with the longest wavelength and the least energy
radiometer	a device that measures the total energy or power from an object in the form of radiation, especially infrared radiation
red dwarf	a low-mass, main-sequence star much smaller, cooler, and less luminous than the sun

# Aryabhat Astronomy Quiz

## Glossary of Terms related to Astronomy & Space Science

Term	Description
red giant	a cool star near the end of its life cycle that has expanded to a size of a few dozen to a hundred times the diameter of the sun
red supergiant	a cool, massive star near the end of its life that has expanded to a size from a hundred to a thousand times the diameter of the sun
redshift	an increase in the wavelength of light coming from an object due to its motion away from earth, the expansion of the universe, or a strong gravitational field
reflection nebula	a cloud of gas and dust that is visible because the dust reflects a nearby star's light
reflector	a telescope that uses a curved mirror to gather light
refractor	a telescope that uses a glass lens to gather light
regolith	the unconsolidated residual or transported rock and soil that overlies solid bedrock on earth, the moon, or another planet the powdery soil of the moon produced by meteorite impacts
relativity	the theories of physics developed by albert einstein that describe measurements made by two observers who are in relative motion
resolution	the ability of a telescope or camera to pick out fine detail
resolving power	the ability of a telescope or camera to pick out fine detail
reticule	a grid or pattern of two or more fine wires set in the focal plane of a telescope eyepiece and used in determining the position and/or size of a celestial object
retrograde	objects that move or appear to move in the opposite direction of most solar system bodies; for example, planets that appear to move east-to-west in the sky or objects that revolve or rotate clockwise as seen from north of the solar system
reusable launch vehicle (rlv)	a single-stage-to-orbit spacecraft that may be reused on successive missions
revolution	the orbital motion of one body around another body or a common center of mass
ribonucleic acid	a nucleic acid that transmits genetic information
rich clusters	large galaxy clusters with unusually high population densities
rich-field telescope	a telescope designed to show a large field of view at low magnification
right ascension	the angular distance of a celestial object east of the vernal equinox; the celestial sphere equivalent of longitude
rna	a nucleic acid that transmits genetic information
rotation	the spin of a galaxy, star, planet, moon, or asteroid about a central axis
rotation period	the length of time it takes a body to complete one rotation
satellite	a small body that orbits a planet or asteroid
schmidt camera	a catadioptric telescope used as a camera to take wide-angle photos of the sky
schmidt-cassegrain telescope	a compact telescope in which light passes through a correcting lens at the front of the telescope, then reflects off a primary mirror back up to a secondary mirror, which directs the light through a hole in the primary and out the back of the scope; a popular telescope for backyard observers.
secondary mirror	a relatively small mirror used in a telescope to redirect the light gathered by the primary mirror
seeing	the quality of observing conditions induced by turbulence in earth's atmosphere, which blurs the images of astronomical objects
semimajor axis	the average distance of an orbiting body from its parent body
seti	the search for extraterrestrial intelligence

# Aryabhat Astronomy Quiz

## Glossary of Terms related to Astronomy & Space Science

Term	Description
setting circles	circular scales on the two axes of an equatorial mount that help an observer point a telescope to a specific right ascension and declination
seyfert galaxy	a galaxy (usually a spiral) with a very bright nucleus and strong spectral emission lines; the first was discovered in 1943 by carl seyfert
shock wave	a powerful wave caused by a sudden change in density, pressure, or temperature that travels through a medium faster than sound travels through that same medium
short-period comet	comets that have orbital periods of less than 200 years.
sidereal	relating to or measured with respect to the stars
sidereal year	the amount of time it takes one body to revolve about another with respect to the stars
siderostat	a flat mirror that can be moved to reflect light from a celestial object to a specific spot
singularity	a point at which space and time are infinitely distorted, such as the central point of a black hole where matter is concentrated into an area of zero volume and infinite density
small magellanic cloud	a small, irregular dwarf galaxy that orbits the milky way galaxy
solar eclipse	an eclipse of the sun caused by the moon passing between earth and the sun
solar filter	a filter used to block almost all of the sun's light so our star can be viewed safely and comfortably
solar flare	a burst of energy and particles from the sun. it releases gases, radiation waves, and magnetic storms.
solar irradiance	the radiant energy emitted by the sun over all wavelengths that falls each second on one square meter of earth's atmosphere
solar mass	the amount of mass contained in the sun, about 330,000 times that of earth's mass
solar system	the system containing the sun and all the smaller bodies in orbit around it
solar wind	the stream of charged subatomic particles emanating from the sun
solstice	either of the two points on the celestial sphere where the sun is farthest north or south of the celestial equator; when the sun is at a solstice, the amount of daylight hours is greatest for summer and least for winter
south celestial pole	the point in the sky to which earth's geographical south pole points
space weather	the conditions in space that can affect earth, satellites, and space travel. space weather is mostly the result of solar wind and solar storms.
space weathering	the process of altering the surface of an object in space by such phenomena as micrometeoroid impacts, cosmic rays, and the solar wind
spacecraft	a vehicle used for traveling in space.
space-time	the intertwining of the three dimensions of space with one dimension of time within which events can be specified exactly
special relativity	the theory of relativity governing uniform motion; it states the equivalence of mass and energy and differs from newtonian physics only when speeds approach that of light
spectra	plural of "spectrum" (the energy emitted by a radiant source)
spectral class	the designation of a star based on its spectrum, which is determined by its surface temperature
spectral line	a particular wavelength of light corresponding to the energy transition of a specific atom or molecule

# Aryabhat Astronomy Quiz

## Glossary of Terms related to Astronomy & Space Science

Term	Description
spectral type	the designation of a star based on its spectrum, which is determined by its surface temperature
spectrograph	an instrument attached to a telescope to record the spectrum of an astronomical object
spectroheliograph	a device for photographing the sun in a single wavelength of light
spectrometer	an instrument attached to a telescope to record the spectrum of an astronomical object
spectroscope	an instrument for examining spectra
spectroscopy	the study of spectra from astronomical objects
spectrum	1. the energy emitted by a radiant source 2. the entire range of electromagnetic radiation (light)
speed of light	the fastest possible speed in a vacuum, equivalent to 186,000 miles per second (300,000 km per second)
spiral arm	a concentration of gas, dust, and young stars that winds its way out from the nuclear region of a spiral galaxy
spiral galaxy	a spiral-shaped system of billions of stars, gas clouds, and dust
standard candle	an astronomical object of known luminosity; can be used to determine distances
star	a self-luminous sphere of hot gas held together by gravity; ordinary stars generate energy by nuclear fusion in their cores
star atlas	a collection of maps that marks the positions of stars, nebulae, galaxies, and other astronomical objects on a coordinate system
star hopping	the technique of using recognizable patterns of stars to "hop" from one part of the sky to another; useful in observing both with the naked eye and a telescope
star party	a gathering of people to observe the night sky
starburst galaxy	a galaxy undergoing an extremely high rate of star formation
stellar evolution	the life cycle of stars
stellar wind	a stream of electrically charged subatomic particles given off by stars
stereo comparator	an instrument that allows astronomers to view two images of the same region of sky simultaneously. objects that have changed their brightness or position appear to stand out of the plane of the picture.
sublimate	the transition of a solid substance evaporating into a gas without passing through a liquid phase
sublimated	the transition of a solid substance evaporating into a gas without passing through a liquid phase
sublimation	the process by which a solid substance evaporates into a gas without passing through a liquid phase
summer	a season that begins around june 21 in the northern hemisphere
sunspot	a dark, temporary, relatively cool spot on the surface of the sun
sunspot cycle	a cycle averaging 11 years in which the number of sunspots increases and decreases
supercluster	an enormous congregation of galaxy clusters that stretches across hundreds of millions of light-years
superfluid	an unusual state of matter characterized by apparently frictionless flow, found only in liquid helium cooled to near absolute zero
superior conjunction	the configuration of an inferior planet when it lies on the far side of the sun

# Aryabhat Astronomy Quiz

## Glossary of Terms related to Astronomy & Space Science

Term	Description
superior planet	a planet farther from the sun than earth; includes mars, jupiter, saturn, uranus, neptune, and pluto
superluminal motion	motion that appears to be faster than the speed of light
supermassive black hole	a black hole at the core of a galaxy that contains millions or billions of solar masses
supernova	the cataclysmic explosion of a star
supernova remnant	an expanding cloud of gas that represents the outer layers of an exploded star
synchronous rotation	when a satellite rotates at the same rate at which it revolves around a more massive object; a body with synchronous rotation shows only one hemisphere to the object it orbits
synchrotron emission	electromagnetic radiation from high-energy electrons moving in a magnetic field
tectonics	big movements of earth's crust. tectonics creates mountain ranges, deep sea trenches, volcanoes, and earthquakes that can cause destructive tsunami waves that can cross oceans.
telescope	a tubed instrument used to brighten and magnify the view of astronomical objects (telescopes gather more light than the eye)
tera	a trillion (1,000,000,000,000 in american usage)
terminator	the boundary on a planet or moon separating the illuminated side from the unilluminated.
terrestrial	of or relating to earth
terrestrial planet	a small, rocky planet such as mercury, venus, earth, and mars
thermal radiation	electromagnetic radiation emanating from any object not at absolute zero
tidal force	the difference in gravitational force between two points on an object caused by the gravity of another object; the tidal force often leads to a deformation of an object
tides	the distortion of a body caused by the gravitational influence of another body
transit	the passage of a smaller body in front of a larger body; also, the passage of a celestial body across an observer's meridian
trans-neptunian object	an object in our solar system lying beyond the orbit of neptune; abbreviated tno
transparency	the clarity of the sky
trapezium	an open cluster of young stars, protostars, gas, and dust in the orion nebula featuring four prominent stars that form a trapezium
tremolite	a common mineral in some metamorphic rocks, composed mainly of calcium and magnesium; it occurs from the conversion of dolomite (a sedimentary rock), silica, and water
trillion	1,000,000,000,000 (in american usage)
trojan	an asteroid that lies in or near one of the lagrange points 60 degrees ahead or behind jupiter along the planet's orbit; trojan asteroids have also been found accompanying mars and neptune
tropical year	the time it takes earth to revolve around the sun with respect to the vernal equinox
true field of view	the angle of sky seen through an eyepiece when it is attached to a telescope; the true field equals the apparent field divided by the magnification
type ia supernova	the explosion of a white dwarf that occurs when it accretes enough mass from a companion star to go above the chandrasekhar limit
type ii quasars	a quasar enshrouded in gas and dust that emits very little visible light, however, is easily seen in the infrared and x-ray region of the electromagnetic spectrum



# Aryabhat Astronomy Quiz

## Glossary of Terms related to Astronomy & Space Science

Term	Description
type ii supernova	the explosion of a massive star that occurs when its core runs out of nuclear fuel; these explosions leave behind a neutron star or a black hole
ultraviolet light	radiation with higher energy than visible light, but without as much energy as x rays
ultraviolet radiation	radiation with higher energy than visible light, but without as much energy as x rays
umbra	1. the dark, central region of a shadow from which none of the light source can be seen 2. the dark center of a sunspot
unidentified infrared bands (uibs)	mysterious objects in space that give off as yet unidentified infrared emission patterns
universal time	the local time of day on a line of longitude centered on greenwich, england; also known as greenwich mean time, it forms the basis for all civil timekeeping
universe	everything that exists
universe	all of space and time, and everything in it. it is everything ever!
ut	abbreviation for universal time, the local time of day on a line of longitude centered on greenwich, england; also known as greenwich mean time, it forms the basis for all civil timekeeping
uv	short for ultraviolet; uv radiation has more energy than visible light but less energy than x rays
vacuum	an empty space that does not have any matter.
van allen belts	two belts of charged particles from the solar wind that have been trapped by earth's magnetic field above earth's atmosphere
variable star	a star that varies in luminosity
vernal equinox	the time of year around march 21 when the sun crosses the celestial equator heading north
vignetting	uneven or reduced illumination over the image plane in a telescope or camera, causing distortion such as dimming near the edge of an image
virgo cluster	a group of about 2,500 known galaxies lying near the north galactic pole in the constellation virgo
visible light	the portion of the electromagnetic spectrum visible to the human eye
voids	enormous regions of relatively empty space between galaxy superclusters
volatiles	chemical compounds that are gaseous at low temperatures.
waning	the period between full moon and new moon
wavelength	the distance between two successive wave crests or troughs
waxing	the period between new moon and full moon
weight	the force exerted on an object due to gravity
white dwarf	the dense, collapsed, earth-sized remnant of an intermediate-mass star like the sun
winter	a season that begins around december 21 in the northern hemisphere
wolf-rayet star	a very luminous and very hot star with temperatures reaching as high as 90,000 kelvins
x rays	electromagnetic radiation more energetic than ultraviolet light but less energetic than gamma rays
x-class flares	the brightest and most energetic type of solar flares

# Aryabhat Astronomy Quiz

## Glossary of Terms related to Astronomy & Space Science

Term	Description
zenith	the point on the celestial sphere directly over the head of an observer
zenithal hourly rate	the number of meteorites expected to be seen per hour when a meteor shower's radiant is at an observer's zenith; abbreviated zhr
zodiac	a band around the celestial sphere 18°in width and centered on the ecliptic
zodiacal light	a faint, cone-shaped glow of light seen in the west after nightfall or in the east before dawn, caused by sunlight reflecting and scattering off interplanetary dust particles lying along the ecliptic plane