

# Astronomy Timeline

## Ancient Astronomy: 2800 B.C. to 1600 A.D.

- 2,800 B.C. – First phase of Stonehenge begins, it is used as a solar/lunar observatory
- 2,000 B.C. - Egypt and Mesopotamia build first solar/lunar calendars
- 280 B.C. - Greek astronomer, Aristarchus of Samos shows the Earth revolves around the Sun
- 240 B.C. - Greek mathematician Eratosthenes measures the circumference of the earth
- 130 B.C. - Greek astronomer Hipparchus develops the first accurate star map and star catalogue, and a reliable method to predict solar eclipses
- 46 B.C. - Julius Caesar, after consulting the astronomer Sosigenes of Alexandria, introduces the Julian Calendar, a regular year of 365 days divided into 12 months, and a leap day is added to February every four years

## 0 A.D. – Start of the Common Era

- 140 - Greek astronomer Ptolemy develops geocentric theory of the universe with Earth at the center
- 400 – 1200 – Pacific Islanders use constellations to travel across the Pacific Ocean
- 1050 – Mayan Pyramid of Kukulcan at Chichén Itzá is also used as calendar
- 1054 - Chinese astronomers observe supernova in Taurus
- 1120 - First astronomical observatory built in Cairo, Egypt
- 1259 - Persian astronomer Nasir al-Din al-Tusi builds Iran's first astronomical observatory
- 1420 - Astronomer Ulugh Beg builds astronomical observatory built in Samarkand, Central Asia
- 1543 - Polish astronomer Nicolaus Copernicus publishes his heliocentric theory of the Universe
- 1572 - Danish astronomer Tycho Brahe discovers a supernova in constellation of Cassiopeia
- 1582 - Pope Gregory XIII introduces the Gregorian calendar

## Classical Astronomy: 1600 to 1900

- 1603 - German astronomer Johann Bayer publishes his star atlas Uranometria and introduces the Bayer designation of stars
- 1608 - Dutch lensmaker Hans Lippershey invents the first practical telescope
- 1609 - Italian astronomer Galileo Galilei uses telescope to discover four moons of Jupiter, craters of the moon and the Milky Way Galaxy
- 1609 - 1619 - German mathematician and astronomer Johannes Kepler introduces three Laws of Planetary Motion
- 1610 - Galileo Galilei discovers Saturn's rings
- 1656 - Dutch astronomer Christian Huygens discovers Saturn's rings and the fourth satellite of Saturn Titan

- 1668 - English mathematician Sir Isaac Newton builds the first reflecting telescope
- 1675 - Danish astronomer Ole Romer measures the speed of light
- 1687 - English mathematician Sir Isaac Newton publishes *Principia Mathematica*
- 1705 - British astronomer Edmund Halley predicts the return of the comet bearing his name
- 1758 - German astronomer Johann Palitzsch confirms Halley's 1705 prediction
- 1781 - Sir William Herschel discovers Uranus
- 1781 - France's Charles Messier discovers galaxies, nebula and star clusters
- 1801 - Italian mathematician and astronomer Giuseppe Piazzi discovers first asteroid, Ceres
- 1842 - Austrian mathematician and physicist Christian Doppler publishes his work on the Doppler Effect
- 1843 - German astronomer Samuel Heinrich Schwabe describes the sunspot cycle
- 1846 - German astronomer Johann Galle discovers Neptune
- 1847 - American astronomer Maria Mitchell becomes the first person to discover a comet using a telescope
- 1860-63 - Sir William Huggins uses spectral analysis of stars
- 1872 - American astronomer Henry Draper takes a first ever photograph of stellar spectrum using the star Vega
- 1877 - American astronomer Asaph Hall discovers Martian moons, Phobos and Deimos

### **Modern Astronomy: 1900 to Present**

- 1905 - Mount Wilson Observatory is built in California
- 1905 - German Physicist Albert Einstein introduces special Theory of Relativity
- 1908 - Danish astronomer Ejnar Hertzsprung describes giant and dwarf stars
- 1908 - American astronomer Henrietta Swan Leavitt discovers Cepheid variables
- 1916 - German Physicist Albert Einstein introduces his general Theory of Relativity
- 1923 - American astronomer Edwin Hubble proves other galaxies exist outside the Milky Way galaxy
- 1927 - Dutch astronomer Jan Oort calculates the center of the Milky Way Galaxy
- 1930 - American astronomer Clyde Tombaugh discovers Pluto
- 1931 - American physicist Karl Jansky discovers cosmic radio waves
- 1933 - Astrophysicist Fritz Zwicky infers existence of dark matter
- 1937 - American electrical engineer Grote Reber builds the first radio telescope
- 1957 - Russians launches man-made satellite Sputnik,
- 1958 - United States launches first U.S. satellite, Explorer 1
- 1963 - Quasars are detected
- 1973 - Astronomers make predictions of Great Attractor
- 1975 - Vera Rubin announces the existence of dark matter
- 1986 - Location of Great Attractor is found
- 1990 - Hubble Space Telescope put into orbit
- 1994 - Comet Shoemaker-Levy crashes into Jupiter
- 1999 - Chandra X-ray Observatory is put into orbit
- 2006 - Dark matter observed separate from ordinary matter