

Date	Europe/Egypt/ Modern World	Middle East/India	China	Americas
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6000 BCE		Winter Solstice in Aries, start Akkadian Calendar?		Current (not first) Mayan great cycle starts 3114
5000	Megalithic Tombs Britain and Brittany			
4000	Start date for Julian Day count Jan 1, 4713 BCE Earliest Egyptian date found, 4241 BCE			
3500	Newgrange, Ireland Burial mound built, Winter Solstice Sunrise alignment Stone Circles in Britain and Brittany	Earliest writing, Mesopotamia		
3000	Stonehenge I Started ~2700BCE, ---Stone Circles in Britain and Brittany ----Egyptian Dynastic History, Hieroglyphic writing Star heliacal rising records started, calendar started			
2500	Pyramids Three calendars, lunar phase, 365 day, and Sothis, based on Sirius heliacal rising (Earth's sidereal period) 36 week year, corresponding to 36 star groups			
2000	Stonehenge III complete BCE~1900 (trilithons)	Empire of Hammurabi- 1792-1750? BCE Venus records kept	China 2137 BCE Hi & Ho reputedly executed for failing to predict eclipse	
1500		Indian lunar tables kept	Chinese eclipse records, 1400 BCE	Earliest known Meso American Temples
1000	Trojan War (Troy destroyed 1184 BCE)	1100 BCE Indian Solar Tables 961 BCE Indian Planetary Motion Tables		
800	Homer, <u>Iliad</u> , <u>Odyssey</u> (some date at 1000-1100 BCE) Hesiod, Works and Days (incl star rising and activity associations)	Babylonian Day and Night divided into 12 parts each, AND 24 equal time divisions made.		
700	Babylonians adopt 7 day week			
600	Ionian School, Thales(624-527 BCE) Earth a disk Anaximander (611-546 BCE) Earth a cylinder Anaximenes (585-526 BCE) Earth a disk with mountains around it			

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500	Pythagoras (500-580 BCE), Pythagorean school (music of the spheres, irrational numbers) spherical earth, crystal spheres for motion of planets, Antichton			
400	Pythagorean Brotherhood 540-400 Pythagoras (c 580 -c500BCE) - spherical Earth, in center of universe. Explained Moon phases by reflection of sunlight. Planets move on crystal spheres. Also Pythagorean Theorem (sides of a right triangle), irrational numbers (ones which cannot be represented by fraction or decimal) Parmenides (504-450 BCE) Theorized about spherical Earth with zones (tropics, arctic etc.) modeled universe with concentric spheres 432 BCE Meton, metonic cycle discovered (19 years=235 lunar synodic months to within 1.5 hrs)			
300	Philolaus (~300-400 BCE) Antichton- anti earth which prevents fire from burning us. Universe centered on central fire. Plato (427-327BCE)Thought the concept, not the observations are important. Proposed that universal motions are combinations of circular, constant rate motions. Motions of bodies around central spindle. Moon shines by reflected sunlight. Aristotle (384-322BCE) argues spherical earth at center, Used 56 Rotating spheres and counter rotating spheres to make up motion. Spherical Earth explained. Divided world into sub-lunar region where change occurs, and super-lunar regions where uniform circular motion repeats forever. Aristarchus 310-230 BCE Found Distances to Sun and Moon, and relative Sizes of Sun, Moon, Earth Distance to Moon, Thought Earth moves around Sun	Babylonia - Venus and Jupiter prediction tables	China -Star Catalog constructed	
200	Eratosthenes (b ~273 BCE d~ 195 BCE) measured circumference of Earth			
100	Hipparchus (~190-100 BCE), Star catalog, epicycles adopted for astronomy, precession discovered and quantified			

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0 BCE ->CE	45 BCE Julius Caesar reforms Calendar, adopt Julian calendar (leap year every fourth year)		Chinese sunspot records 28 CE	Medicine Wheels, Great Plains, Alberta
100	Ptolemy (100-170CE) 140 Ptolemy's Almagest			
200			Water Clocks	Teotihuacan Empire Mex.
300	325 CE Council of Nicea fixes Easter as Sunday following full moon following vernal equinox			Nazca culture Peru
400	Fall of Rome 473 CE			Start Mayan
500	Church adopts flat Earth, Rectangular heavens above			
600				End Teotihuacan
700		Al Mansur at Bagdad gathered astronomers, Almagest translated		V Climax of Maya Earliest date for Anasazi petroglyphs of supernova?
800		Arab Astronomy Flourishes @Baghdad, Tabit ben Korra(836-901 CE) translated Almagest. Noted difference in precession between Ptolemy and current observations. Introduced "trepidation", for variation in precession rate		End Maya V
900	Spherical earth and sky readopted by Church	Toledan Tables (made Toledo, Spain) under direction of Arzachel, 1080 CE, updated computational basis		Uxmal and other Yucatan sites
1000		Hakemite Tables published at Cairo by Ibn Yunos (d 1008 CE)	Chinese record Crab Supernova in Taurus	Caracol built, Yucatan Chaco Canyon, N.M. habitation

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1100	Euclid/Ptolemy rediscovered in Europe			Chaco Canyon, center of activity
1200	Albert the Great(1206-1003 CE) & Thomas Aquinas (1225-1274 CE)- Embrace Aristotle as authority Roger Bacon (1214-1294 CE) warns against excessive reliance on Aristotle Pope Alfonso X directed Alfonsine Tables 1252 CE (ellipse for Mercury orbit)	Spain recaptured by Christians, Corbova1236 CE and Seville1248 CE End of Islamic astronomy in West		Bighorn Medicine Wheel est. (1200 - 1700)
1300				Chaco canyon abandoned by Anasazi
1400	Copernicus (1473-1543 CE)			Aztec Empire, Mexico
1500	De Revolutionibus published 1543 CE Tycho Brahe-1546-1601 CE Supernova in Cassiopeia 1572 CE Comet 1577 CE Observatory at Hven 1576-1597 CE 1582 Gregorian Calendar adopted in Italy, Spain, Portugal (Oct 15 followed Oct 5), 12/82 adopted France, Belgium, Catholic Netherlands. 1583Bavaria and Austria 1584Protestant Belgium, Catholic Switzerland, Bavaria, Moravia adopted, 1587 Hungary Johannes Kepler (1571-1630 CE) Elliptic Orbits, Laws 1609, 1626 also Optics			Inca Empire, Peru 1519 Cortez conquers Mexico

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1600	<p>Galileo (1564-1642 CE)- Telescopic Discoveries 1610-11, (sunspots, moons of Jupiter, phases of Venus, mountains of moon, rings of Saturn, <u>Star Messenger</u> 1610 <u>Dialogue on Two Principal World Systems</u> 1633 Tried by Church 1633, recanted</p> <p>Newton (1642-1730 CE) Optiks,(1704) Newtonian telescope, light split into colors Principia 1687 1ST ed, Revised by Newton 1713 and 1826- Includes Computational basis of motion, 3 laws of motion, Law of Gravity, the Calculus</p> <p>1675 Greenwich Observatory Founded (goal to make star catalogue good enough to support longitude determination from Moon position)</p>			
1700	<p>1700 Germany and Denmark adopt Gregorian Calendar</p> <p>1750 Thomas Wright models galaxy as a lens shape based on number of stars in various directions</p> <p>1752 Britain and the Colonies adopt Gregorian Calendar</p> <p>1772 - Titus - Bode Law, Numerical Relation for semi major axes of planet orbits</p> <p>1781 -Herschel discovers Uranus while mapping bright star positions</p>			
1800	<p>1801 Ceres discovered by Giuseppi Piazzi</p> <p>1838-Parallax of 61 Cygni discovered by William Bessel (1784 -1846), first time parallax of a star is found</p> <p>1846 Neptune discovered by Galle in accord with John Couch Adams and Leverrier's predictions</p> <p>Solar Spectrum observed, Helium discovered</p>			
1900	<p>1900 Planck determines that light is radiated in discrete amounts called photons</p>			
1910	<p>1916 Theory of relativity</p> <p>1917 Russia accepts Gregorian Calendar</p> <p>1919 Rutherford discovers the proton</p>			

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1920	1926 Robert Goddard launches first liquid fuel rocket 1927 Heisenberg Uncertainty Principle (we cannot know the position and the velocity of a particle arbitrarily well, no matter what we do) Expansion of the Universe found ~1928 (Hubble const)			
1930	Clyde Tombaugh discovers Pluto 1930 Quantum Mechanics			
1940	Atom Bomb (fission) Distance to Andromeda Galaxy proves it is outside Milky Way 1948 Hale Observatory at Mt Palomar completed 1949 Gregorian Calendar Adopted, China			
1950	Hydrogen Bomb(fusion)			
1960	Pulsars and Quasars discovered First Lunar Explorations, landing 1968 Cosmic Background radiation (3 degree) discovered			
1970	Viking Landers reach Mars 1976, Pioneer probes to Jupiter and Saturn			
1980	Voyager leaves for Jupiter Saturn, Uranus, Neptune COBE satellite measures uniformity of Cosmic background radiation			
1990	Hubble Space Telescope Launched			
2010				2012 End of Mayan Great cycle