

A Brief Column for the Beginning Stargazer Introducing a New Astronomical Term Each Month

Astronomy is rich with terminology. This column will help beginning stargazers ease into the world of astronomy by *briefly introducing* a new but *basic astronomical term* (word, acronym or abbreviation) each month. This list, which began January 1999 with the letter *a*, is alphabetical but uses successive letters for each month's entry. (We will return to the letter *a* after twenty-six months.)

Word of the Month for January 2000

month A period of time equal to approximately thirty days or four weeks and derived originally from the lunar cycle of phases (month = "moonth"), called the lunar *synodic period*.

More generally, a period of time based on the orbit of the Moon around the Earth. This results in several types of months according to the reference point. In addition to the "calendrical month," astronomy recognizes five "astronomical months."

Type of Month	Reference Point	Length (days)
Anomalistic	Apsis (perigee) ¹	27.554 550
Draconic	Node ²	27.212 221
Sidereal	Fixed Stars	27.321 662
Synodic	Phase (e.g. New)	29.530 589
Tropical	Equinox ³	27.321 582

¹**Apsis** (or **apse**) The point of greatest or least distance of the orbit of a celestial body from a center of attraction. For the Moon, the closest point to Earth is called *perigee* and farthest point, *apogee*.

²**Node** The two points of an orbit where the orbit crosses the *ecliptic* plane (mean plane of Earth's orbit around Sun).

³**Equinox** The two points of the Earth's orbit where the orbit crosses the *equatorial* plane of the Earth.

Table Notes

Anomalistic Month Time between successive passages of Moon through *perigee* (closest point to Earth). The Moon's orbit slowly rotates causing the perigee point to advance with an 8.85 year period. This makes the anomalistic month about 5.5 hours longer than a sidereal month. [Anomalistic refers to deviating from the normal (i.e., sidereal) month.]

Draconic (or Nodical) Month Time between successive passages of Moon through the *ascending node* of its orbit. The Moon's orbit is inclined to the ecliptic plane about five degrees. The nodal points of the orbit slowly regress in a 18.61 year period. This makes the draconic month about 2.5 hours shorter than a sidereal month. This eighteen year period is important for predicting the occurrences of eclipses. [Draconic refers to the nodes, fancied as a "dragon" from head (ascending node) to tail (descending node).]

Sidereal Month Time between successive passages of Moon through *same star*. [Sidereal means of or relating to the stars (i.e., "fixed").]

Synodic Month Time for successive occurrences of identical lunar phases (a *lunation*), such as from new Moon to new Moon. The Earth's motion about the Sun requires the Moon advance more than one orbit before reaching the same phase again. This makes the synodic month about 2.2 days longer than the sidereal month. [Synodic means "coming together again."]

Tropical Month Time between successive passages of Moon through *vernal (spring) equinox*. The *precession of the equinoxes* causes the vernal equinox to slowly move westward along the ecliptic by about 50.3 arc seconds per year. This precessional period of approximately 26,800 years makes the tropical month about seven seconds shorter than the sidereal month. [Tropical refers to the seasons.]

Calendrical Month An artificial interval of integral numbers of days. [Calendrical refers to reckoning time or accounting for time.] ☼

References. J. Mitton 1991, *Concise Dictionary of Astronomy* (Oxford Univ. Press); I. Ridpath 1997, *A Dictionary of Astronomy* (Oxford Univ. Press).