

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 July 1999

gibbous Moon The *phase* of the Moon when its disk appears between half illuminated (a quarter moon) and fully illuminated (a full moon). The word *gibbous* means *humped* or *humpbacked*. Thus, something that is gibbous means convex (bowed out), or to swell or become protuberant. As the Moon's phase changes from first quarter to full moon, the Moon's terminator (boundary between light and dark) begins to "bow out." Therefore, the Moon is said to be in a *gibbous phase*.

After a full moon, the Moon again becomes gibbous as the Moon's phase moves toward last quarter. Therefore, *there is no one moment when the Moon is*

gibbous (unlike new, quarter or full moons)—gibbous is any phase between quarter and full.

A gibbous moon can either be *waxing* (growing) or *waning* (shrinking). As the Moon's phase changes from first quarter to full, the phase is called *waxing gibbous*. Conversely, *waning gibbous* designates the phase as the Moon goes from full back to last (or third) quarter.

Gibbous moons occur when the Moon is between *opposition* to the Sun (*celestial longitude* is 180° greater than the Sun's) and *quadrature* (*celestial longitude* is 90° greater or smaller than the Sun's). Therefore, at mid-northern latitudes, a *waxing gibbous moon rises only during the afternoon (before sunset) and sets before sunrise*. Likewise, a *waning gibbous moon rises only during the first half of the night (after sunset) and sets during morning hours (after sunrise)*.

When the Moon appears gibbous from Earth, observers on the Moon see the opposite phase (i.e., a "crescent Earth").

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