

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 September 1999

inferior planet A planet whose orbit lies inside of the Earth's orbit in a *heliocentric* (Sun centered) model of the solar system. Likewise a planet whose orbit lies inside of the Sun's orbit in a *geocentric* (Earth centered) model. There are only two inferior major planets—Mercury and Venus.

Since the orbits of Mercury and Venus are both smaller than the Earth's orbit (in a heliocentric model),

these planets orbit *inside* of the Earth's orbit. Hence, their orbits lie "beneath" or "below" or "interior" to the orbit of the Earth—all words that denote the context of *inferior*.

As observed on the sky (see figure below), inferior planets never reach *opposition* to the Sun during their wandering motions relative to the stars—i.e., they are never seen on the opposite side of the sky from the Sun. Instead they only reach positions of *greatest elongation* from the Sun—about 18° to 28° for Mercury and 47° for Venus. However, the inferior planets have *two conjunctions* with the Sun—they can pass the Sun moving west to east on the sky (called *prograde motion*) at *superior conjunction*, and can pass the Sun moving "backwards" from east to west (called *retrograde motion*) during *inferior conjunction*.

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

