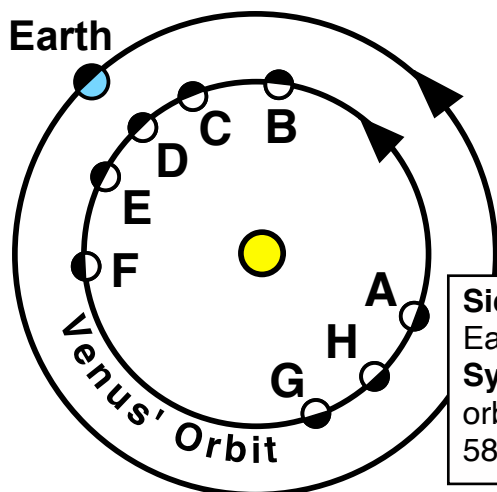


ASTRONOMICAL LEAGUE

PHASES OF VENUS



Orbital positions of Venus with respect to Earth



Venus' position above the horizon ...

- A Gibbous phase low in evening sky.
- ◐ B Half phase high in evening sky, Greatest Eastern Elongation.
- ◑ C Crescent phase low in evening sky.
- D Inferior Conjunction, in front of the sun and can't be seen.
- ◑ E Crescent phase low in morning sky.
- ◐ F Half phase high in morning sky, Greatest Western Elongation.
- G Gibbous phase low in morning sky.
- H Superior Conjunction, behind the sun and can't be seen.

Sidereal orbital period: Time it takes to completely circle the sun.
 Earth: 365.25 days; Venus: 224.7 days.
Synodic orbital period: Time it take Venus to catch Earth as they orbit the Sun (the time between successive inferior conjunctions):
 584 days = 19.5 months.

Inferior Conjunction Dates

March 23, 2025	October 24, 2026
June 1, 2028	January 6, 2030

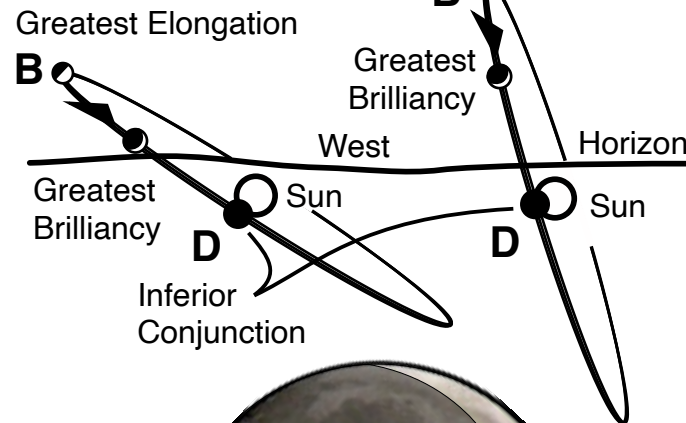
Venus in the evening sky ...

- Points of greatest elongation (B & F) occur 10 weeks before and after inferior conjunction. This is when Venus attains its greatest angle from the Sun. In a telescope, the planet appears to be half illuminated.

- Points of greatest brilliancy (near C & E) occur 4 weeks before and after inferior conjunction. The planet appears as a thin crescent.

For observers in the contiguous US, Venus lies higher above the horizon at sunset when it is in the spring sky than the autumn sky because the angle of the ecliptic with respect to the horizon is greater in the spring months.

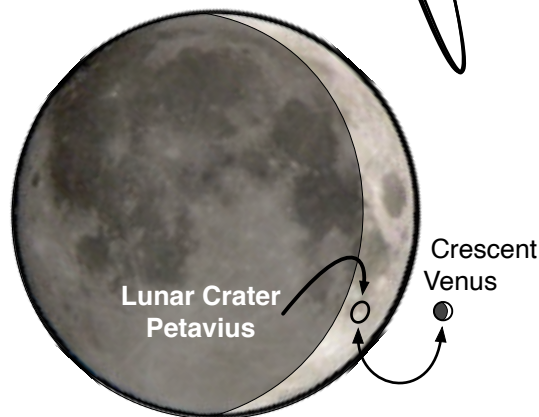
Low in the southwest after sunset in autumn High in the northwest after sunset in spring
 Greatest Elongation



Venus is bright enough that it can cast a shadow and, at times, it can be seen in the daytime!

Venus is very bright because ...

- it presents the largest apparent angular diameter of any planet when it nears its closest point to Earth. At that time, Venus has about the same apparent angular diameter as a large lunar crater.
- Venus' permanent, thick cloud cover reflects 75% of the sunlight that strikes it (called its "albedo"). Compare that to the Moon's albedo of 12%, Mercury's 12% and Mars' 16%!



Relative apparent sizes of the Moon, a large crater (Petavius) & the crescent Venus.