

# Farewell Venus; Hello Mercury

- a December 2021 Sky Event from the [Astronomy Club of Asheville](#)

On the nights of **December 28-30**, look for a wonderful planetary conjunction of Venus and Mercury low in the SW skies at dusk – both in the constellation Sagittarius. Venus is descending while Mercury is ascending, as the two trade positions in a planetary dance. On Dec. 29<sup>th</sup>, they will appear about  $4.5^\circ$  apart.

At magnitude  $-4.3$ , Venus easily outshines Mercury ( $-0.7$ ). The planets will be only  $6^\circ$  above the horizon at dusk; so, seek a clear view low to the SW horizon. Using binoculars will help you locate fainter Mercury.

Venus is completing its 8-month visit as our “evening star”, as it approaches *inferior conjunction* (passing between the Earth and the Sun) on January 8, 2022. Soon thereafter it moves into the dawn skies and becomes a bright “morning star”. Venus will not return to our evening skies until November 2022.

Mercury is beginning its brief appearance in our skies at dusk – attaining its highest position in those skies on January 7, 2022, when it reaches *greatest elongation east* (farthest separation from the Sun as seen from Earth at dusk – about  $19^\circ$  for this elongation). After that, Mercury will begin its descent toward the horizon – disappearing from our view by January 20, 2022.

As they orbit the Sun, these two interior planets, Mercury and Venus, display moon-like phases as seen from Earth. On the nights of Dec. 28-30, a small telescope will reveal cloud-covered Venus as a narrow crescent, only 4% illuminated, while Mercury will appear as an 83% illuminated, gibbous shape.

On these nights, the brightest planet as seen in our night skies, Venus, is located only 26 million miles away (about 2 light minutes) – much closer than the Sun! By comparison, small Mercury is some 111 million miles away (about 10 light minutes) – farther away than our Sun by about 18 million miles.

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