

The best way to understand the night sky is through the classical idea of the ecliptic. Earth and the visible planets orbit the Sun in nearly the same plane (the ecliptic plane), and the Moon orbits the Earth in close to the same plane. So we see the Sun, Moon, and planets in nearly one line across the sky (the ecliptic). As the Earth rotates daily, the celestial sphere appears to rotate, and the Sun, Moon, and planets rise and set in sequence along the ecliptic. From the perspective of Earth, the Sun and the visible planets appear to move slowly along the ecliptic through the Zodiac constellations that divide it, with the planets' sequence and apparent motion changing based on where they are in their orbits. Uranus and Neptune are also on the ecliptic, but are not visible to the unaided eye.

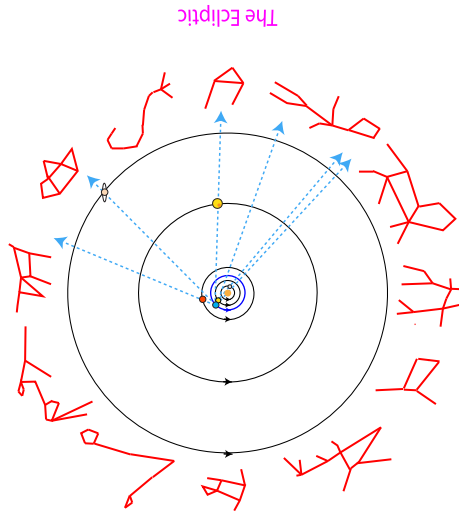
Sun and visible planet positions
on September 22, 2018

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Constellations

The modern system of 88 constellations is based primarily on ancient Babylonian and Greek constellations. The 12 Zodiac constellations (mostly animals - hence the "zoo" of Zodiac) divide up the ecliptic path of the sun and planets into 12 segments of 30 degrees each. The Zodiac "signs" originally reflected the constellation that the Sun was in during that month. But due to the Earth's slow wobble, the Zodiac signs are now out of sync by about a month, so the Sun is just moving into Virgo from Leo at the Autumn Equinox. The imaginary lines connecting stars into constellation shapes are not always very evocative, so illustrator H.A. Rey of "Curious George" fame redrew them in the 1950s. Many of his versions are now common and are used in this starfinder.

Autumn Equinox, September 22

Sun rises due East and sets due West 12 hours later. Days keep shortening.

