

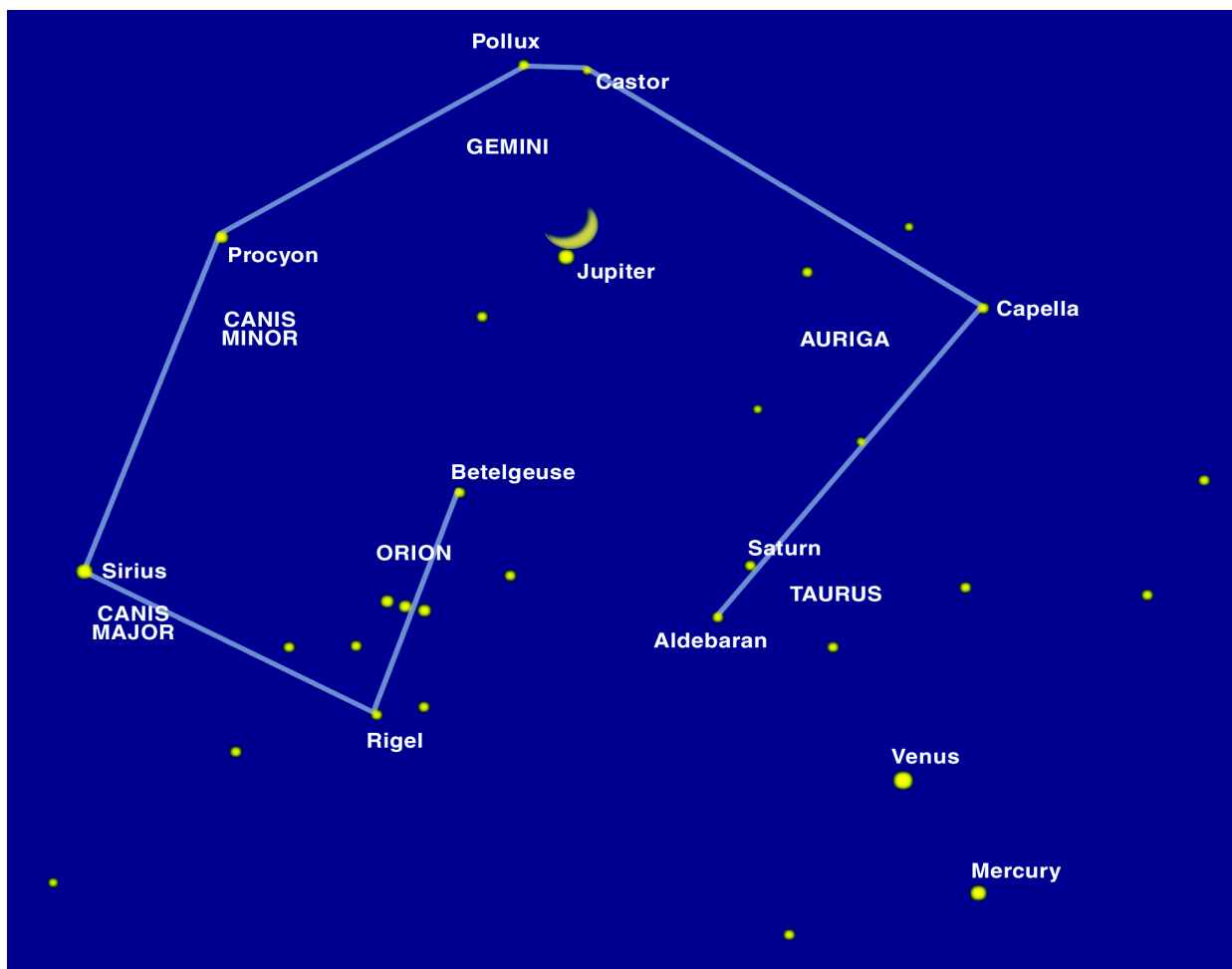
April's planetary line up

Sit back and enjoy this month as the five brightest planets are arranged over the western horizon at sunset and each in turn is “visited” by the Moon as it makes its way eastward during the month of April. And while the western sky is host to Mercury, Venus, Mars, Saturn, and Jupiter, the stars in the background should not be overlooked. These are not only the brightest of the stars we have in our northern hemisphere skies, they are also parts of very recognizable constellation patterns. The stars, Aldebaran, Capella, Castor and Pollux, Procyon, Sirius, and Rigel

form a much larger asterism, often known as the “Winter Circle,” or “Hexagon.” By adding the star Betelgeuse, the Winter Circle will form a large letter “G” (see below).

Whatever your choice, here is an opportunity to take advantage of pleasant spring evenings to take a last look at the winter skies and the bright planets. But remember that we move our clocks forward an hour this month so it will be staying lighter later into the evening. Consequently, if you wait until dark to do your skywatching, Mercury will have set and Venus may be too low see.

Low over the western horizon are the two inner planets, Mercury and Venus. Due to



Recognizable star patterns on April 18th, at about 8:30 in the evening, showing the Winter Circle or the letter “G.”

their close orbits around the Sun, we can only see these two planets just after sunset or just before sunrise as they swing out from behind or in front of the Sun. Both planets reach what appears, from Earth, to be their greatest separation or distance out from the Sun, a point in their orbit known as *greatest elongation*. During April, the planet Mercury swings out from behind the Sun and, in the span of just one month, reaches its greatest eastern elongation on May 4th. Watch for Mercury to appear over the western horizon at sunset by the middle of the month. Each evening over the next few weeks it will set a little later than the Sun, meaning that each evening it will be a little higher over the horizon at sunset.

Venus, on the other hand, takes longer to reach elongation because it is further from the Sun, and so will gradually increase its time above the western horizon at sunset during April. For a time it will appear as if Mercury will catch up with Venus, but the orbital “leash” on Mercury will very quickly grow taut and snap Mercury back into place. On the evening of the 14th the barely two-day old crescent Moon lies alongside the much brighter Venus.

A day later the waxing crescent Moon is beside the planet Mars, providing a wonderful view (especially through binoculars) of the Moon, Mars, and the open star cluster, the Pleiades, or the “Seven Sisters.” Mars, like all of the nine planets, is in a continuous state of motion along its orbital path around the Sun. So, while Venus and Mercury race outward from the Sun toward their respective eastern elongations, Mars moves slowly eastward away from the Pleiades toward the more open-star cluster, the Hyades, Aldebaran, and Saturn.

On the evening of the 16th the Moon will be very close to Saturn. This will be an *occultation*, when the Moon completely blocks Saturn from

view at locations in the far northern latitudes on Earth. From the viewing angle of mid-latitudes in the United States, the Moon will be less than 1 degree (or about two full Moon diameters) from Saturn and the reddish star Aldebaran.

Two days later, on the 18th, the near first quarter Moon will be alongside the giant planet Jupiter (see diagram on previous page). On the 19th, the first quarter Moon lies near the twin stars of Pollux and Castor, and over the next few days moves out of the southwestern skies toward full Moon on the 27th.

Moon phases

	April
Last quarter	4/04
New Moon	4/12
First quarter	4/20
Full Moon	4/27

Celestial events

- 4/04 STS-111 launch, *Endeavour*, ISS Utilization Flight (UF-2)
- 4/07 Daylight Savings Time, spring forward, set clock ahead one hour
- 5/02 STS-107 launch, *Columbia*, Spacehab

Visible planets

- Mercury becomes visible over the western horizon at sunset toward the end of April.
- Venus starts to become more visible over the western horizon after sunset.
- Mars is visible low over the southwestern horizon after sunset.
- Jupiter is visible over the southwestern horizon at sunset.
- Saturn is visible over the southwestern horizon at sunset.

Internet Resources

Daylight savings—Set clock ahead one hour: aa.usno.navy.mil/faq/docs/daylight_time.html
 STS-111 launch, *Endeavour*: www.spaceflight.nasa.gov/shuttle/archives/sts-111/index.html
 STS-107 launch, *Columbia*: science.ksc.nasa.gov/shuttle/missions/sts-107/mission-sts-107.html
 Monthly star map: www.skymaps.com

Bob Riddle is a science educator living in western Missouri. You can email him at starwalk@currentsky.com or visit his website at www.currentsky.com.