

“Getting to Know Constellations”

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If you're a newcomer to amateur astronomy, eager to begin exploring the night sky, the first thing to learn is how to identify the constellations. After all, you can't find the Andromeda Galaxy if you can't find Andromeda. Trying to make sense of hundreds of stars overhead might seem intimidating, but making friends with the stars is a fun and rewarding pursuit.

Let's begin in the northern sky, where you can find those always-visible star groups known as the north circumpolar constellations. The most prominent figure is the Big Dipper. These bright stars — four forming the "bowl," three more tracing out the "handle" — create one of the most recognizable patterns in the night sky, an ideal guide for locating surrounding constellations. However, it is important to note the Big Dipper is not a constellation, rather it is an asterism.

In astronomy, an **asterism** is a pattern of stars seen in Earth's sky which is not an official constellation, but may be part of one. The Big Dipper is a part of the constellation Ursa Major, the Big Bear. Like constellations, they are composed of stars which, are not physically related, often being at significantly different distances from Earth. An asterism may be composed of stars from one or more constellations. Their mostly simple shapes and few stars make these patterns easy to identify, and thus particularly useful to those just learning to orient themselves when viewing the night sky.

You can find *Polaris*, the North Star, by tracing a line between the stars *Dubhe* and *Merak* at the end of the bowl of the Big Dipper and extending it about five times the distance between them. When most people see this celebrated star for the first time, they are astonished that it isn't much brighter than the other stars in the Big Dipper. However, *Polaris* is the brightest star in Ursa Minor, the Little Bear, which contains the Little Dipper (another asterism). Like its big brother, the Little Dipper is made up of seven stars — four in the bowl, and three in the handle. Because four of its stars are dim, the Little Dipper is hard to see in light-polluted skies.

If you trace a line from the bowl of the Big Dipper past the North Star and continue it an equal distance beyond, you'll arrive at an eye-catching group of stars that form a distinct letter M or W. This is Cassiopeia, Queen of Ethiopia.

During spring, the Big Dipper appears nearly overhead from mid-northern latitudes. If you follow the handle of the Dipper away from the bowl, you'll "arc to *Arcturus*," a golden-yellow 1st-magnitude star in the constellation Boötes the Herdsman. The constellation itself is shaped like a huge kite, with *Arcturus* at its base. Continuing the arc, you'll "sprint to *Spica*." This blue-white 1st-magnitude star is in Virgo, which is a huge, sprawling constellation.

Leo the Lion is center stage high in the south. Leo's most noticeable feature is an asterism

(a grouping of stars) that reminds observers of a sickle or a backward question mark. The period on the question mark is the 1st-magnitude star *Regulus*. To the left of the Sickle are three stars that form a right triangle. We see the Lion from the side; the Sickle outlines his head, and the triangle, his hindquarters.

To help you locate more constellations, asterisms, planets and stars you can download a free Sky Map each month at www.skymaps.com. You can also join docents at the Cameron Park Rotary Club - Community Observatory located behind Folsom Lake College, El Dorado Center adjacent to Green Valley Road in Placerville. For observatory hours and driving directions go to www.communityobservatory.com.