From Second Nature, November 2009

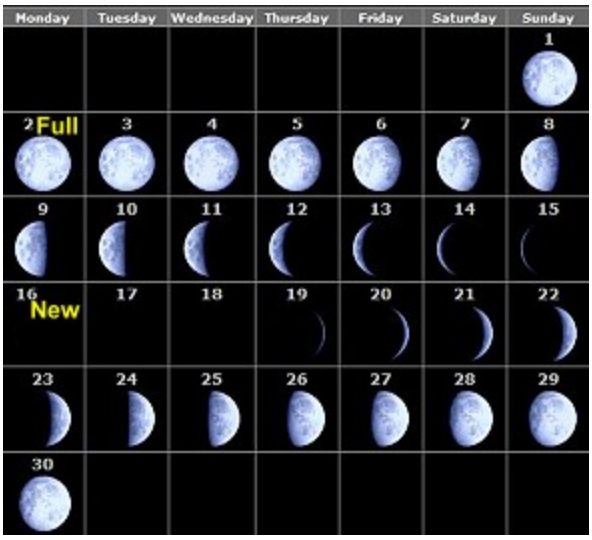
Secrets of the Night Sky

Have you ever wondered why the stars seem to glisten and glow? Are you curious as to why there are nights the moon lights a path to your bed, yet there are mornings it awakens you? Is the moon always out? Do the stars always shine bright? Many of us take our night sky for granted, never giving a second thought to the moon's travel pattern or speculating as to which twinkle above is a star or a plane or perhaps even a planet. It is mind boggling to think that the ancient Greek people figured out what the moon was doing in relationship to the earth before computers and technology. But with a bit of dedication, some documentation, warm clothes, and an inquiring mind you can too. And what's more, sunlight ebbs earlier and earlier as November progresses, which makes this a wonderful time of the year to have your younger counterpart(s) join you in a quest for clarification about this lunacy.

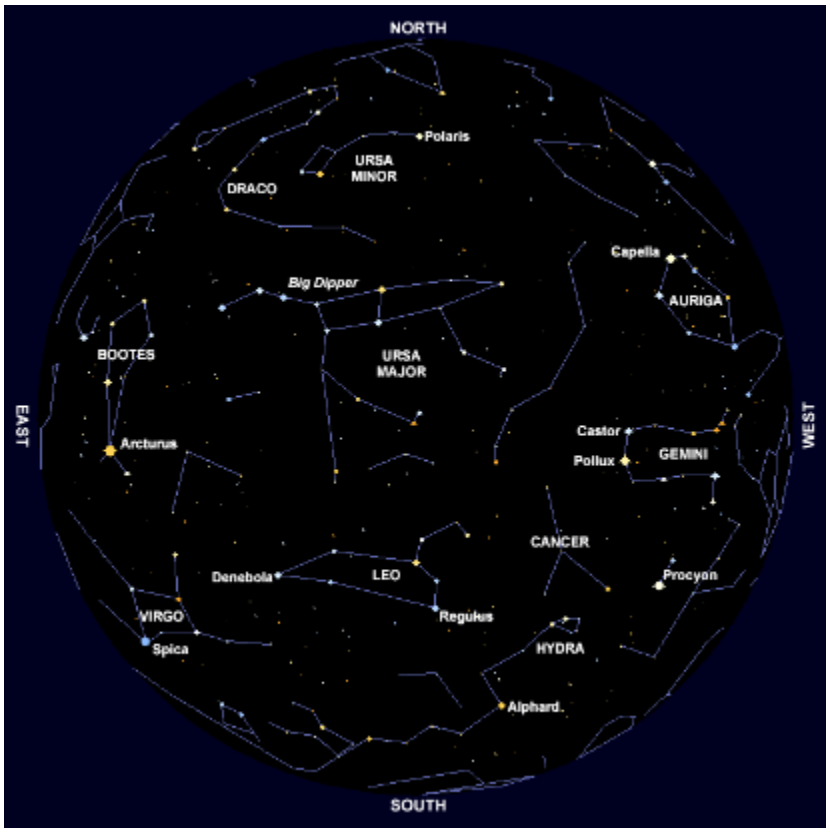
First order of business is to assemble some type of night sky journal. This alone could be a fun, family project. You may want to include blank paper as well as lined paper so there is plenty of space for writing, as well as drawing, your observations. Plain white pages invite people of all ages to participate in this fun adventure.

Then, try this experiment. Go out one night when the moon is visible and try to find some stars that appear close to the moon. You may want to draw a picture of the moon and the location of the stars. Go out the next night and compare your drawing to what you now witness in the sky. The stars you drew should be in about the same place as the night before, but the moon will have moved. What happened?

Stars, constellations, galaxies, planets, the moon, this is confusing stuff! The best way to solve this experiment is to go out AT LEAST every other night during the month of November to observe the sky and record your findings. Better yet, do the same thing throughout December as well; especially on December 4th when you will find a full moon that is one of the brightest since it coincides with the fourth closest perigee. The more you observe, the more you will understand and your journaling will lead you to the answers, among many other discoveries and inspirations.



However, if you are still curious or a bit confused or maybe you are ready for the next night sky challenge then join us at Bonnyvale Environmental Education Center Saturday, November 14th from 7-9 p.m. to begin learning secrets of the night sky. Thomas Whitney, President of the Astronomy Association, will be guiding us through an exploration of our night sky. Mr. Whitney operates the observatory at Amherst College, teaches an astronomy class, and runs the public programs at the Planetarium at Amherst College. Pre-registration is required, please call 802.257.5785, $5/members and $8/non-members. www.beec.org



Some helpful websites:

http://www.woodlands-junior.kent.sch.uk/time/moon/2009/index.htm

http://www.almanac.com/astronomy/skywatch

Recommended Children's Books:

"Draw Me a Star" and "Papa, Please Get the Moon for Me" by: Eric Carle

"Thirteen Moons on Turtle's Back" by: Joseph Bruchac

"The Hidden Heart of the Cosmos" and "The Universe is a Green Dragon" by: Brian Swimmee

"Owl Moon" by: Jane Yolen

Answer: The stars appear to be in the same spot because the earth completely rotated once. (The earth rotates once every 23 hours and 56 minutes.) However, the moon is orbiting the earth and as a result, the moon has changed its location in the sky. It takes roughly 27 days for the moon to orbit the earth one time.