

Q-C Area

Stars' color, magnitude affect ability to track them

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*"Starlight, star bright;
first star I see tonight. I
wish I may, I wish I might,
have the wish I wish
tonight."*

Generations of young people have scanned the sky at dusk searching for a star to wish on and then have repeated this rhyme. Most often, a person first sees Venus. Although in reality it's a rocky planet,

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not a blistering star, its proximity to Earth, plus the sun's rays reflecting on its constant cloud cover, make it bright. It is called the "evening star" and also "the bright morning star."

The second star one might see is an actual one with strong light. There are 21 of these. Several visible in November are

Capella, Deneb, Vega and Altair. If you wish (while you are wishing) to know more star names and their locations, several sources are available — "Sky & Telescope" and "Astronomy" magazines have monthly sky maps.

As the Earth rotates and revolves, people have a changing view of the

heavens, but the constellations are still fixed in their relationship to one another. Bookstores also might carry a plastic or paper planisphere. This directs you to any day and hour of the year by dialing double circles. And, of course, technology has a handy answer. By visiting sky-maps.com, you can readily see what to look for on any given date on your screen.

The Greeks classified stars by brightness, or-

ganizing them by "magnitude." On their scale, magnitudes 0 and 1 are the biggest, most luminous spots of light beaming through the darkness we call "the night sky." Sky charts list that Greek scale, which descends from magnitude 0 to magnitude 5, and show star dots in six sizes. Many constellations have only one or two stars of top brightness. Brightness is determined by size, heat and the distance the star is from us.

A fun idea to experiment with when you are star gazing is to try to see the subtle colors of some stars. They are not only interesting to behold but indicate both temperature and the stage a star is in during its lifetime. Blue stars like Rigel or Vega are the hottest, followed by white. Arcturus is said to be ginger ale colored. Next are yellow stars like Capella, then orange ones (see Albireo). Lastly, red is the coolest. Red Betelgeuse is very large and is in one of the final phases in a star's life.

Deliberately putting a star slightly out of focus while using binoculars or a telescope gives more area to a star's color by extending its rays. This is a tried and true method used by amateur astronomers. If viewing with binoculars, sit in a chair and lean

against something solid to steady your view or buy an adapter part to attach your binoculars to a tripod.

There are variables that may affect the clarity of your views when stargazing:

► When the moon commands the sky, it makes hunting stars more of a challenge.

► The amount of moisture in the atmosphere also makes a difference. This is not all bad, however, because it is our many layers of atmosphere that cause stars to appear to flicker or twinkle.

► Artificial lights create "urban glow." This can make many stars look faint or even absent.

In this year of the 100th anniversary of the National Park Service, it is noteworthy that all of the parks have declared that dark skies are a right every human has — to be able to know the natural universe setting in which we live. Educating the public about how light pollution can be minimized is a pertinent challenge the park service has embraced.

To learn more, you are invited to join the Popular Astronomy Club (now in its 80th year in the Quad-Cities). It meets in the John Deere Planetarium at Augustana College in Rock Island at 7 p.m. the second Monday of each month.