



# ***STARRY TRAILS***

## ***NOVEMBER 2019***

We have a spectacular daytime celestial event coming up on Monday, November 11<sup>th</sup>. Weather permitting and using a SAFE solar filter, you can watch the planet Mercury cross the solar disk in daylight! This event is called the Transit of Mercury and begins at 7:35 am and ends at 1:04 pm. The next Transit of Mercury will be May 7, 2049.

Our dazzling planet Venus returns to our evening sky. At the beginning of the month, Venus will be 5 degrees above the horizon, but by month's end it will double that position from the horizon. Venus will join Jupiter, to put on a fantastic show, all month long, in the southwestern sky after sunset. On November 23<sup>rd</sup> & 24<sup>th</sup>, Venus and Jupiter will be less than 2 degrees apart (Illustration 1)! There will be a spectacular grouping with the Crescent Moon on November 28<sup>th</sup>, 30 minutes after sunset (Illustration 2)! Saturn will be up to the left of Jupiter (Illustration 3). Saturn is a lovely sight through a telescope. Mars returns to the predawn sky and forms a striking line with Mercury and the Crescent Moon, November 23<sup>rd</sup>-25<sup>th</sup> (Illustration 4). Once we have changed back our clocks to Eastern Standard Time, it will be great to go outside and enjoy an evening of stargazing right after dinner! The evenings are getting colder, so we will need to put on our winter coats, gloves, hats and maybe boots

We will begin our hike at 7:00 pm. Grab your Starry Trail map and binoculars and let's go! Face west, or where the sun set, and you will see a bright star, Vega. Now trek left to another bright star which is Altair. Now trace up and to the right to Deneb. If you connect these three stars you have made the Summer Triangle. Great! Running through the Summer Triangle is our Milky Way galaxy! Take your binoculars and scan through that part of the sky. Look at all of those stars! Even if you cannot view the Milky Way, due to light pollution, you can still see so many stars with your binoculars!

Hike back to Deneb. Imagine this to be the tail of Cygnus, the Swan. Below Deneb, you will see three stars in a line. Those make up the wings. You should also be able to see the long neck and head of the swan extending from the wings. The head of the swan would be to the left of Vega. This star, Albireo, is a beautiful double star through a telescope (Illustration 5).

Now look directly overhead and you will see four stars that make a square. This is the Great Square of Pegasus. Turn to the right, which is direction north. You will see a group of stars that are in the shape of a "W". This is the constellation, Cassiopeia. Grab your binoculars again. From the top point of the W shape, scan slowly up and to the right (about halfway to Pegasus). Do you see a fuzzy circular object? That is the Andromeda Galaxy (M31). It is 2.5 million light years away! Find the bottom point of the W. Scan once again to the right and down slightly. You will come upon the Double Cluster in Perseus.

Journey down to the northern horizon and you will find the Big Dipper. By the way, look at the second star in the handle, with binoculars. It is a double star! Head down to the cup of the Big Dipper. Take the two stars at the end of the cup and draw an imaginary line to the next bright star. You have reached the North Star! The North Star is at the end of the handle of the Little Dipper (Illustration 6).

Our last stop is direction east. Turn to the right once more. I saved the best part for last! Look straight ahead. Do you see a small cluster of stars? This cluster is the Pleiades or the Seven Sisters. The Pleiades has to be my favorite group of stars to gaze at through my binoculars (Illustration 7). Take a look! Spectacular! Below the Pleiades is a red, orange star, Aldebaran. Aldebaran is part of the constellation, Taurus, the Bull. Look slightly left to another bright star which is Capella.

It was great that we had our binoculars tonight. So much to see! Head inside where it is warm.  
**Next month the winter sky and our most magnificent picture in the sky!**

### **Highlights**

**November 2** – The Moon passes south of Saturn.

**November 3** - Daylight Savings time ends at 2am.

**November 4** – First Quarter Moon.

**November 6** – The Moon passes south of Neptune.

**November 10** – The Moon passes south of Uranus.

**November 12** – Full Moon. According to folklore it is the Full Beaver Moon.

**November 17** - Leonid Meteor Shower peaks! The Waning Gibbous Moon will fade the fainter meteors.

**November 19**– Last Quarter Moon.

**November 23 & 24** – Venus passes south of Jupiter, 30 minutes after sunset.

**November 26** – New Moon.

**November 28** – The Crescent Moon forms a spectacular trio with Venus & Jupiter!

**November 29** – The Moon passes south of Saturn.

**Brightest Stars: West:** Vega, Deneb, Altair **South:** Formalhaut **North East:** Capella **East:** Aldebaran

**Binocular Highlights:** The Moon, Milky Way from Cassiopeia through the Summer Triangle, Andromeda Galaxy M31, Double Cluster (NGC 869&884), Pleiades.

**Telescope Highlights:** The Moon, Jupiter, Saturn, Uranus, Neptune, Albireo, M31, M39, M1, M2, M27, M57, M15, M11, M81, M82, M 36, 37, 38 (near Capella), NGC869 & 864.

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Night Sky Illustrations created by Suzie Dills using Starry Night Backyard & Stellarium.

*Illustrations courtesy of Cassandra Dills*

Written by Suzie Dills – Remember to download your Illustrations & Star Map!