



STARRY TRAILS

DECEMBER 2015

Welcome Winter! Although our nights are long, cold and snowy, our bright winter stars look like sparkling jewels on a clear night! There is plenty to enjoy this month: our magnificent Orion, the Hunter is back, the Full Moon occurs on Christmas day, and our morning planet show continues! On the morning of December 7th, get up early to see the splendid pairing of Venus and the Crescent Moon in the eastern sky before sunrise. Another great thing about winter is the sun sets early. We can start our hike much earlier. We need to put on our winter coats, hats, gloves, and boots. Grab your Starry Trail map and binoculars and let's enjoy!

Around 7:00 pm we will begin our hike. Face west (where the sun sets), and we will see the three bright stars which make up the Summer Triangle, Vega, Deneb and Altair. We shall say farewell until next summer. Now look directly overhead for the four stars that form the Great Square of Pegasus (Illustration 1). Trek up and to the right and 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 bottom point of the W shape, scan slowly to the left (about halfway to Pegasus). Do you see a fuzzy circular shape? That is the Andromeda Galaxy (M31). It is 2.5 million light years away! Find the top point of the W. Scan once again to the left and up slightly. You will come upon the Double Cluster in Perseus.

Turn to the right to face north. Journey down to the northern horizon and you will find the Big Dipper. Head 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, or Polaris, is at the end of the handle of the Little Dipper (Illustration 2). The bright star up and to the right of Polaris is Capella. If you scan with your binoculars to the right and slightly up from Capella, you may spy a few lovely star clusters!

Continue to turn to the right, slightly, to face east. You will notice a small cluster of stars. These stars are the Pleiades or the Seven Sisters. The Pleiades has to be my favorite group of stars to gaze at through my binoculars. Take a look! Spectacular!! Hike down from the Pleiades and you will see a V shape in the stars. This is the face of Taurus, the Bull. The bright red-orange star is Aldebaran (Illustration 3).

As you trek down from Taurus, you have arrived at the most magnificent picture in our stars, Orion, the Hunter! The three stars in a row make up the belt of Orion.

The bright red-orange star up and to the left of the belt is Betelgeuse. The bright blue-white star down and to the right of the belt is Rigel. Now with your binoculars scan just below the belt. You will notice a small fuzzy area. That is the Orion Nebula (M42). New stars are forming in that hydrogen gas cloud! We call this a stellar nursery. The two stars to the left of Orion, that look almost identical, are Gemini, the Twins.

Time to head inside and warm up. Best wishes for a wonderful holiday season!

Next month, Orion, the Hunter's best friend and the ultimate five planet extravaganza!!

Highlights:

December 3 – Last Quarter Moon.

December 7 – Spectacular pairing of Venus & the Crescent Moon in the eastern sky before sunrise.

December 11 – New Moon.

December 14 – Geminid Meteor Shower peaks.

December 18 – First Quarter Moon.

December 21 – Longest night of the year. Winter solstice occurs at 11:48pm.

December 25 – Full Moon. According to folklore this is the Full Cold Moon.

Brightest Stars: **West:** Vega, Deneb, Altair. **South:** Formalhaut. **East:** Capella, Aldebaran, Betelgeuse, Rigel, Castor, Pollux.

Binocular Highlights The Moon, Milky Way from Capella through the Summer Triangle, Andromeda Galaxy (M31), Double Cluster, Pleiades, Orion Nebula (M42).

Telescope Highlights The Moon, Uranus, Neptune, M1, M2, M31, M15, M42, M81, M82, M35, M36,37,38 (near Capella), NGC869 & 864.

[Starry Trails](#) is a fun & easy way to explore the night sky as it appears from your own backyard!

Journey over to [StarryTrails.com](#) & get everything you need to navigate the night sky!

Starry Trails is a free publication & your able to make copies to pass along to your friends & family so they can learn and enjoy the night sky with you!

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