

FEBRUARY 2012 ASTRONOMY
From the Trackman Planetarium at Joliet Junior College

Jupiter is high in the western sky and Venus is low in the southwestern sky after sunset during February. Both planets are very bright and easy to find. Venus is moving further east every night while Jupiter appears to move west every night. They will be next to each other in mid-March. Mars is low in the eastern sky at the end of February and will remain in the evening sky through the summer and into next fall. Mercury will pass behind the sun on February 6th and will be in the western sky after sunset toward the end of the month. Saturn will be rising just before 10pm at the end of February. Like the stars, Saturn rises four minutes earlier each night and will be in the March evening skies.

Orion dominates the evening sky during February. If you have binoculars, look at the cloud (nebula) under the three stars that mark Orion's belt. There are six new solar systems forming in the nebula. The nebula is made up of gases and materials that have been ejected from old stars after they converted all of their hydrogen and shrunk into dwarfs or exploded into supernova. The stars in and behind the nebula are what causes the nebula to look bright. To the left and above Orion are two easy to find stars (Castor and Pollux) that mark the heads of the Gemini twins. High in the sky above Orion is the "W" of Cassiopeia. The Big Dipper is high in the northeastern sky in the evenings, starting in mid-February. The Big Dipper is part of the constellation of Ursa Major or the Big Bear. The outer two stars on the dipper cup - Merak and Dubhe - are the pointer stars. Follow them to the north and they lead to Polaris - the North Star. Polaris marks the end of the handle of the Little Dipper. Below the Big Dipper are a group of stars that form a sickle or backward question mark. That is the head of Leo the Lion with the bright star Regulus marking Leo's chin. Mars is in the eastern part of Leo.

This year is a leap year and so there is one extra day in February. It takes Earth 365.2563 days to orbit the sun. Since our calendar has only 365 days, every four years the Earth has fallen very slightly over one day behind the calendar in its orbit. If we did not have the leap year day (February 29th) the calendar would be off by 25 days after one hundred years and the Spring Equinox, the first day of spring, would fall on April 15th. After 500 years, New Years would fall in May!

The full moon is on February 7th and the February full moon was called the "Full Snow Moon". Meanwhile, the sun starts February in Capricorn and moves into Aquarius on February 17th, where it stays until the end of the month.

Sun spot activity has increased and we had a good chance of seeing the Northern Lights the last part of January. Unfortunately, the burst of energy from the sun - called a Coronal Mass Ejection - passed over the Earth during the daylight hours for us in the western hemisphere. The sun should remain active through the end of 2012 and we may yet get a chance to see the Aurora. The radiation we receive from the solar flare on the sun during one of the outbursts can affect radio communication (especially with aircraft flying over the North Pole) and overload circuits on satellites, but we are protected by an electromagnetic shield that surrounds the Earth. We are also protected by our atmosphere. Our atmosphere allows radio waves to reach the Earth's surface, along with infrared waves (heat) visual (sight - what we see as the rainbow) and some ultraviolet (sunburn). The atmosphere blocks gamma rays, x-rays, most ultraviolet rays, and microwaves. As should be expected, the "chicken little" people are associating the solar outburst with the end of the world that they are predicting for December. Solar activity increases and decreases on an eleven year cycle and is not unique to anything happening this year or any other year for the last five billion years. (See the public show on February 9th.)

The free planetarium shows for February are: Feb 9th at 6:30 pm (December 21st 2012 - Not the End of the World); Sunday - Feb. 12th at 2:30 pm (Seasonal Skies); Feb. 23rd at 6:30 pm (Seasonal Skies); Feb. 28th at 7:30 pm (African-American Astronauts and Astrophysicists). All shows begin with a dome show using the planetarium projector to show the current night sky.

On March 3rd the Admissions Department at Joliet Junior College will sponsor "Discover JJC" from 9 am until noon at the main campus. Representatives from all of the Departments at JJC will be on hand to answer any questions prospective students or their parents have about classes, finances, scholarships, etc. at Joliet Junior College. The planetarium will be open and we will do hourly shows on the night skies.

Art Maurer
Director -Trackman Planetarium
Joliet Junior College
(amaurer@jjc.edu <[mailto:\(amaurer@jjc.edu\)](mailto:amaurer@jjc.edu)>)