

JANUARY 2010 ASTRONOMY  
*From the Trackman Planetarium at Joliet Junior College*

\*

*Happy New Year! The earth will be at its closest approach to the sun on January 2nd, only 91.4 million miles from old sol. In July we will be 94.5 million miles from the sun. The sun appears about 3 percent larger in January than July. And for those longing for afternoon sunshine, the sun sets after 5:00 PM on January 28th. \**

*Mars will be at its closest approach to the earth for the next two years on January 27th when it will be 61.7 million miles from us. Mars makes a close approach to the earth every 25 months. Because of their orbital speeds relative to ours, Mars and Venus are the only two planets that don't make a close approach to the earth every year. Mars is the red object below and to the left of the Big Dipper in the eastern sky in mid-evening.*

*January's full moon is on January 30th.*

*One of the best meteor showers of the year is on January 3rd - the Quadrantids. Unfortunately, the moon is up all through the night which will make seeing meteors difficult.*

*Jupiter is still in the western evening sky after sunset. Saturn will be rising in the east at 9:30 PM by the end of January. Venus is too close to the sun for viewing. Mercury will be in the eastern sky before sunrise at the end of January.*

*The major constellation in the January sky is Orion. He is high in the southern sky at mid-evening. Above and to his left is Gemini with the two bright stars - Castor and Pollux. Mars is to the left of Castor and Pollux. To the left of Mars is the bright star, Regulus in the constellation of Leo*

*If you have binoculars, look at the nebula (cloud) under Orion's belt. That is a star nursery where new stars and new solar systems are forming. Look above and to the right of Orion with your binoculars for the Pleiades star cluster. Those are new stars - only a couple of million years old. Follow Orion's belt down and to the left and you will find Sirius, the brightest star - after our sun - in the sky. Sirius is in Canis Major. The Pleiades are in the constellation of Taurus the Bull and the bright red star that marks the bull's eye is Aldebaran. Above Taurus is Perseus and above Perseus is Cassiopeia.*

*The International Space Station resumes its evening crosses starting the first week in January. Go to "Heavens-Above.com" and use their database to set the website for your town. Heavens-Above will tell you everything that's happening in the sky above your house that night. "ISS" is the International Space Station. The website has great star maps, too. Click on "Whole Sky Chart".*

*Our Public Shows for January are on January 10th at 2:30 PM (Our Solar System), January 12th at 7:30 PM (Comets & Asteroids), January 21st at 6:30 PM (Winter Sky for Kids), and January 26th at 7:30 PM (The Seasonal Skies of February).*

*The sun seems to be coming back to life and catching up with the new sunspot cycle. There were 22 sunspots during December. For the previous 11 months, we averaged fewer than 8 sunspots each month, and eight months during 2009 had fewer than 10 sunspots. The sunspot cycles last eleven years and we are about two years into the current cycle. Sunspots are dark areas on the surface of the sun which are “cool” spots where there is intense magnetic activity. “Cool” on the sun’s surface means about seven thousand degrees compared to the normal ten thousand degrees.*

*The Russian Space Agency is considering sending a mission to deflect the Asteroid Apophis as it approaches the Earth. Apophis is an 800-foot long asteroid that weighs about one million tons. Apophis is on course to pass the Earth on Friday, April 13, 2029 - missing us by 18,600 miles. 18,600 miles is closer to Earth than the orbits of communication satellites. What has a **few** scientists concerned is that the asteroid’s orbit might be bent by the Earth’s gravity and it will return to collide with us on Easter Sunday in 2036. Using new sightings (Apophis is currently lost in the sun), NASA has increased the chances of Apophis hitting the Earth in 2036 from one in 45,000 to four in one million. Apophis will take another shot at Earth in 2068 and that doesn’t look worrisome either. When the Earth doesn’t end on December 21st in 2012, the disappointed “Sky is Falling” pseudo-scientists will be jumping on this close approach as the new doomsday scare. Apophis is currently seven degrees to the left of the sun and 158 million miles away. Apophis will be included in our January 12th show - “Comets and Asteroids”.*

*Art Maurer  
Director  
Trackman Planetarium  
([amaurer@jic.edu](mailto:amaurer@jic.edu))*