

FEBRUARY 2010 ASTRONOMY
From the Trackman Planetarium at Joliet Junior College

February 2nd is Ground Hog Day. Ground Hog Day, like Halloween and May Day, comes from the Celtic Astronomical Calendar and were known as Cross Quarter Days - days halfway between the equinoxes and solstices. Ground Hog Day was celebrated as Imbolc. In the Celtic calendar, the Cross Quarter Days were considered the start of the new season. Imbolc would be the start of spring and the equinox on March 20th would be the middle of spring. Shakespeare's "Mid-Summer Night's Dream" refers to June 24th as "mid-summer" because it would be in mid-summer according to the Celtic calendar. June 21st is the first day of summer in our current calendar. (We don't have a comparison celebration for Lughnasadh, the cross quarter day in August.)

The beginning of February will be the last chance to see Jupiter before it appears to pass behind the sun on February 28th. Jupiter is in the evening sky right after sunset. Jupiter, like all the outer planets, orbits from west to east. However, since the earth orbits the sun faster than the outer planets, the sun appears to move to the east faster than those planets and eventually passes in front of them.

Mars is high in the sky in mid-evening. It is a bright red object above and to the east of Orion. Mars starts February at its closest approach to the earth for two years - 61.7 million miles. By the end of February, Saturn will be joining Mars in the evening sky. Venus will be in the evening sky right after sunset at the end of February. Unlike Jupiter, Venus - a planet closer to the sun than the earth - orbits faster than the earth, so it will appear to move farther to the east every evening until it is a bright object in the mid-evening skies during the summer.

Orion still dominates the evening skies. Orion is easy to find with the three stars in his belt (Alntek, Alnilam, and Mintaka) being very obvious. Look below those stars with binoculars and you will see the Orion Nebula, a nursery of new solar systems forming from the remains of expired stars.

Above Orion and to the east are two bright stars (Castor and Pollux) that mark the heads of the Gemini twins. Above Orion and to the west, is Taurus the Bull with the red star Aldebaran marking the bull's left eye. Below Orion and to the east is the brightest star in the sky after the sun - Sirius. To the east of Orion is Mars and then farther to the east is the backward question mark of stars that make up the head of Leo the Lion. Mars is in Cancer, but because it is made up of dim stars, Cancer is very hard to see. However, Cancer is home to a very bright open star cluster called the Beehive Cluster. Look for it with binoculars directly under Mars at mid-month.

Above Leo is the Big Dipper, part of the constellation Ursa Major or the Big Bear. When looking at the Big Dipper, the side of the "cup" opposite the handle is made up of two stars - Merak and Dubbe. Those are the pointer stars. Follow them up from the Big

Dipper and you come to Polaris - the North Star. Polaris is at the end of the handle of the Little Dipper, but most of the stars in the Little Dipper are too dim to see in our skies.

Look at the middle star in the handle of the Big Dipper. If you can see two stars instead of one, you have good eyesight according to some Native American tribes and to the early Egyptians. The two stars are Mizar and Alcor. Look at that star with binoculars and you'll see three stars.

The sun starts the month in Capricorn and moves into Aquarius on the 16th. The full moon is on February 28th.

Here is a correction to January's Newsletter. The sentence: "NASA has increased the chances of Apophis hitting the Earth in 2036 from one in 45,000 to four in one million" should have read "NASA has decreased the chances of Apophis hitting the Earth in 2036 from one in 45,000 to four in one million". It's time to revisit the "Statistics" textbooks.

Our last Sunday public show is on February 7th at 2:30 pm. It is a show about all of the things you can see in the sky at night - and a few you can't see. We will be finished in plenty of time to get home and see the Super Bowl.

The other public shows in February are on February 9th at 7:30 pm (The Fermi Paradox - Scientists question why there are no aliens) and February 23rd at 7:30 pm (Sun-Earth-Moon).

As most of you probably know, Joliet Junior College, as a community service, offers free planetarium shows to groups from schools, after-school groups, Boy and Girl Scouts Troops, and other non-profit organizations. For information on scheduling a private show, call Christine McKittrick at 815-280-6682 between 7:00 am and 12:30 pm.

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