

By Vernon Whetstone

Amateur Astronomer

This is being written well in advance of the Dec. 13-14 Geminid meteor shower so all I can say is, I hope we had clear skies. We can also hope for clear skies on Monday, Dec. 20, so we will be able to watch a total lunar eclipse.

This is the first total lunar eclipse visible in North America since February of 2008, and will be the last one until 2014—so let's all hope real hard.

If the sky is cloudy, there is hope however. Using the Slooh robotic telescope the eclipse can be observed on your computer screen. The address listed in last week's column was corrupted, the correct address is: [http://www.slooh.com/space\\_camera\\_telescope/telescope.html](http://www.slooh.com/space_camera_telescope/telescope.html)

If you wish to use it you must first establish an account. Live coverage of the eclipse will start at 9 p.m. MST.

From here in southwest Nebraska the lunar edge will encounter the penumbral, or outer, shadow edge at about 10:30 p.m. MDT. As the Moon progresses into the shadow band there will not be much noticeable shading on the lunar face.

The penumbral shadow band is very light and produces very little shadowing. About an hour later the Moon will enter the umbral, or inner shadow area where a noticeable shadow effect will start.

It will look like a giant something has taken a bite out of the edge of the Moon. It was this event that led many ancient astronomers to conclude that Earth was indeed round because of this rounded shadow.

An hour or so later the lunar surface will be totally in the umbral shadow and will take on a curious reddish tinge. This is the result of all the sunsets and sunrises shining around the edges of the Earth.

At about 2 a.m. sunlight will start returning to the lunar face. The eclipse process will reverse itself with the Moon going out of the umbra into the penumbra and the eclipse will be over at about 4 a.m. MST.

If you get bored looking at a red Moon, there will be lots of other things to look at with the bright light of the full Moon blocked out. The four Messier objects behind the Moon for example. Above the Moon is star cluster M37. To the right in the constellation Auriga are M37, M36, and M38 in that order.

Then several bright first magnitude or brighter stars are nearby. Capella in Auriga is to the left of the three Messier objects, then red giant Betelgeuse as the right shoulder of Orion.

To the lower right of the Moon, Aldebaran, the brightest star in Taurus, the Bull with the tiny star cluster Pleiades riding, as it were, on the shoulder of the the bull.

The "V"-shaped Hyades star cluster marks the face of the bull with Aldebaran looking like a red, angry, eye. Aldebaran is not part of the cluster. It is located about halfway there. It is only along the same line of sight as the cluster.

Above the Moon are the twins of Gemini, Castor and Pollux, Castor being the one on the right. Rigel, a double blue-giant star, is technically the brightest star in Orion even though it has the "beta" designation. Rigel can be identified as the left knee of Orion.

SKY WATCH: Mars and Mercury have left the evening sky, Jupiter, and fellow gas-giant planet Uranus, are high in the south.

The pair are visible in the same binocular field of view.

NEXT WEEK: The Winter Triangle and Hexagon and more astronomical blathering.