

HEAVENLY VIEWS – “THIS MONTH’S LUNAR ECLIPSE”

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This month we will be treated to a special celestial event. On the 20th of February, the Moon will pass into the shadow of the Earth and treat us to a lunar eclipse.

A lunar eclipse occurs whenever the Earth’s shadow is cast upon the Moon. The Moon will always be full during a lunar eclipse, which means that anyone on the night side of the Earth can see it.

A lunar eclipse may be total or partial. If the Moon passes completely into the Earth’s shadow, it is called total. If the Moon passes slightly above or below the shadow, such that only part of the Moon passes into the Earth’s shadow, it is called partial.

Why don’t we have a lunar eclipse once a month with each full Moon? We would, if the Moon’s orbital plane were the same as the Earth’s orbital plane. But the Moon’s orbital plane is inclined by about 5 degrees with respect to the Earth’s orbital plane, so most of the time the Moon is passing either above or below the Earth’s shadow when it is full. You may have noticed yourself that sometimes the Moon is higher in the sky than at other times. But on average twice a year the Moon will pass through a portion, or all, of the Earth’s shadow.

A total lunar eclipse is an amazing event to see. When the eclipse starts, it will look like something has taken a “bite” out of one side of the Moon. As the eclipse progresses, more and more of the Moon will disappear, until it is totally covered by the Earth’s shadow. But then something beautiful happens. Since the Earth has an atmosphere, sunlight is refracted, or bent around the Earth through our atmosphere and cast upon the Moon to provide a ghostly illumination of its surface. The Moon will appear orange, or even dark red, depending on how much dust is in the Earth’s atmosphere. The longer, red wavelengths of light refract easier, and are not scattered as are the shorter wavelengths.

A lunar eclipse can often last longer than three hours, especially if it is total. It takes about an hour for the Moon to move completely into the Earth’s shadow. It can then remain totally eclipsed for an hour or more, then take yet another hour to move completely out of the Earth’s shadow. This February’s eclipse starts at 5:43PM PST, and will end a little after 9PM PST.

Many amateur astronomy groups take advantage of celestial events like a lunar eclipse to put on a program for the public. At such programs, the visiting public can view the event and ask volunteers staffing these events questions about what is happening. **The Community Observatory will be hosting a lunar eclipse event beginning at sunset on February 20th, with volunteer docents on hand to answer your questions.** For more information on lunar eclipses, you may also visit NASA’s website at <http://sunearth.gsfc.nasa.gov/eclipse/lunar.html> .

The Community Observatory is located behind the El Dorado Center, Folsom Lake College, 6699 Campus Drive just off Green Valley Road in Placerville. For driving directions and more information about the Community Observatory please visit our website at www.communityobservatory.com .