



# Red Moon over the Rockies

Photo and Story by James Durbano

Mark your calendars and set your alarm clocks because you will not want to sleep in on the morning of December 10, or you will miss a magnificent sight – an orangey-red moon seemingly suspended just above the Rocky Mountains.

This beautiful vista will be yours to enjoy for 51 minutes due to the unique celestial geometry that occurs that morning between the sun, the earth, and the moon. That's right it's another total lunar eclipse, the second such eclipse to be visible from the foothills in the past 12 months.

Lunar eclipses are really not that rare, with up to three occurring each year, but this natural spectacle is a sight to behold and certainly worth getting out of bed for.

On the morning of December 10, the partial phase of the lunar eclipse will begin at 5:46 a.m. Shortly afterwards, you will begin to see the earth's shadow slowly moving across the surface of the moon. By 6:15 a.m., the moon will resemble a cookie with a bite taken out of it. The total phase of the eclipse begins at 7:06 a.m. and soon after the moon will appear orangey-red. The total phase ends at 7:57 a.m., just 51 minutes after it began.

After the total phase of the eclipse, the partial phase begins again with the dark shadow once again slowly moving across the surface of the moon, but this time the shadow is uncovering the moon. You will not be able to watch this phase of the eclipse for too long because the moon will set behind the snow-capped Rocky Mountains shortly after the second partial phase begins.

Many people wonder why the moon takes on an orangey-red glow during the total phase of the eclipse; after all it's during this part of the eclipse that the moon is located deep inside the earth's shadow and so you imagine that it should look black and hence disappear into the night sky. This, however, is not the case because some indirect sunlight does manage to reach the moon and illuminate it. This sunlight has passed through the deepest layers of the earth's atmosphere, which scatters the shorter wavelengths of light. All that remains is red and orange light and a bit of this light is sufficiently bent by the atmosphere and in the process reaches the moon to gently illuminate it. ■

Lunar Eclipse Phase	Time (Mountain Time)	#Azimuth	Altitude
First Partial Phase Begins	5:46 AM	277°	23°
First Partial Phase Ends / Total Phase Begins	7:06 AM	291°	11°
Mid-Eclipse	7:32 AM	296°	7°
Total Phase Ends / Second Partial Phase Begins	7:57 AM	300°	4°

\*Azimuth: is the direction of a celestial object, measured clockwise around the observer's horizon from north.

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