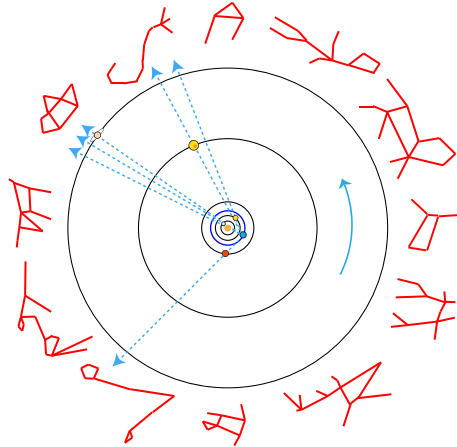


In its monthly orbit around the Earth, when the Moon is between the Earth and the Sun it is not visible from Earth in the bright sky (New Moon), and when it is opposite the Sun it fully reflects the Sun's light (Full Moon). When a New Moon happens just as the Moon crosses the ecliptic plane, the Sun, Moon crosses the ecliptic plane, the Moon blocks the Sun, briefly creating a solar eclipse. When a Full Moon happens just as the Moon crosses the ecliptic plane, the Earth blocks the Sun from shining directly on the Moon, creating a lunar eclipse. Some sunlight is refracted through the edge of Earth's atmosphere and still reaches the Moon. Since this light comes through the atmosphere as part of all the sunsets and sunsets in a ring around the Earth, it is also red. Hence the Moon turns a light pink or red from this refracted light.

### Solar and Lunar Eclipses



### January 2019 Night Sky Highlights

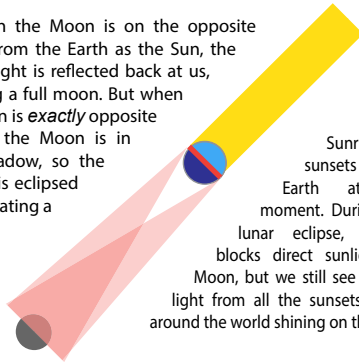
January 3: Aquanids Meteor Shower late at night.

January 6: New Moon and Partial Solar Eclipse. Since the Moon is almost directly between Earth and the Sun, sunlight shines on the opposite side of the Moon from Earth, so the Moon cannot be seen from Earth in the daylight sky. Viewed from East Asia, the Moon is briefly directly in front of the Sun in the morning and blocks part of it.

January 20-21: Full Moon and Lunar Eclipse. The Moon is almost directly opposite the Sun, so sunlight shines on the side facing Earth, and is reflected back at Earth. Around midnight EST, the Moon is briefly directly opposite the Sun, so direct sunlight on the Moon is blocked by Earth's shadow, though some light is still refracted onto the Moon through the sunsets and sunsets that ring the Earth.

### Lunar Eclipse January 20-21, 2019

When the Moon is on the opposite side from the Earth as the Sun, the Sun's light is reflected back at us, creating a full moon. But when the Moon is *exactly* opposite the Sun, the Moon is in Earth's shadow, so the Sun's light is blocked by Earth, creating a lunar eclipse.



Sunrises and sunsets ring the Earth at every moment. During a total lunar eclipse, the Earth blocks direct sunlight on the Moon, but we still see refracted red light from all the sunsets and sunsets around the world shining on the Moon.

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 on January 15, 2019