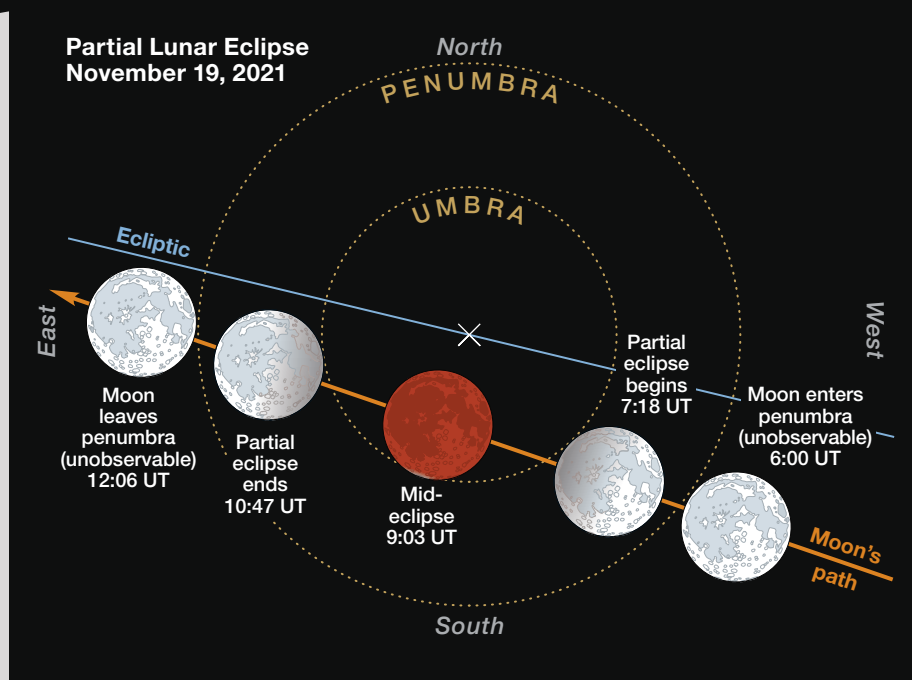


An Almost Total Lunar Eclipse

Observers across North America get to watch the Moon slip through Earth's shadow.

Yes, it's November, and yes, the weather's getting colder — but don't put your telescope away just yet. It's going to be a busy month.

Topping the list is a very deep partial lunar eclipse on the night of November 18–19, visible across the Americas, northern Europe, eastern Asia, Australia, and the Pacific. The partial phase —

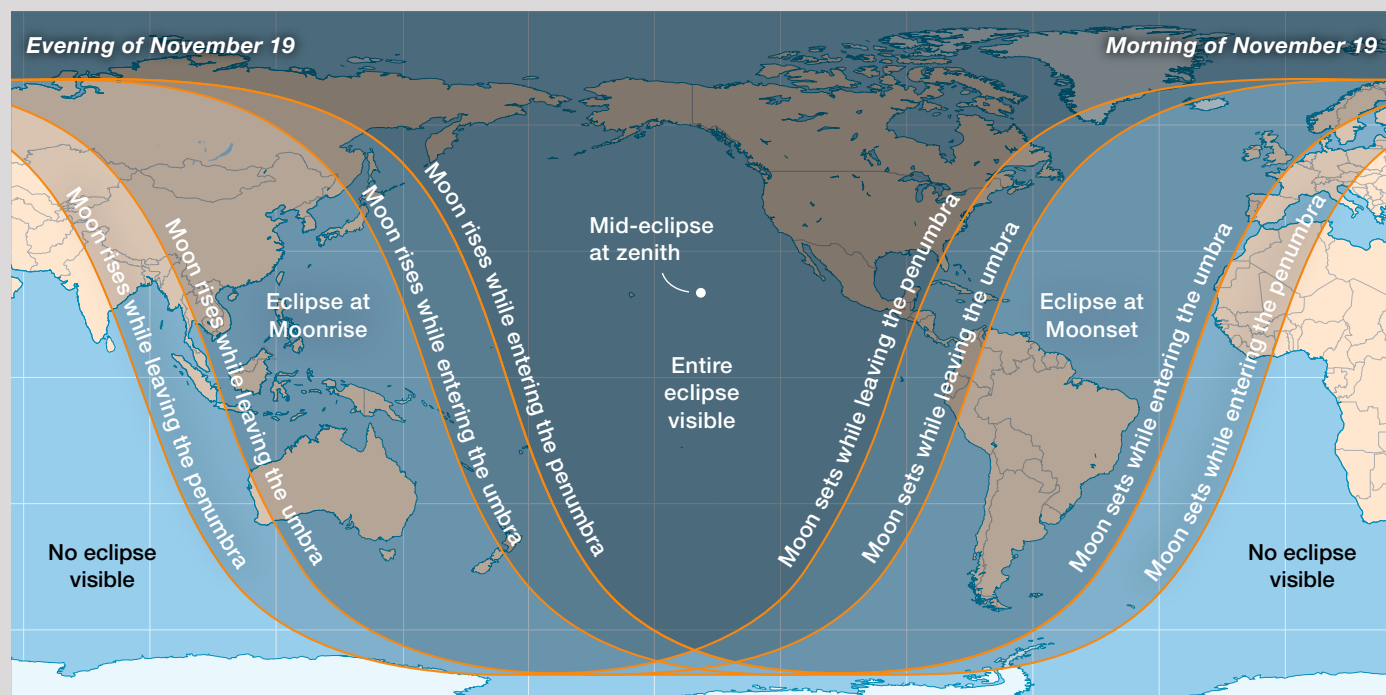


when the Moon enters Earth's umbral shadow — begins at 2:18 a.m. EST (7:18 UT) on November 19th, and greatest eclipse is at 4:03 a.m. EST (9:03 UT).

At maximum, 97% of the lunar disk will squeeze into the umbra, leaving just a narrow sliver of the southern limb poking out. The Moon will be just 1.7 days shy of apogee, so its apparent size

will be slightly smaller than usual. This helps increase both the depth of the eclipse and its duration. The Moon exits the umbra at 5:47 a.m. EST (10:47 UT), nearly 3½ hours after it entered.

Depending on volcanic activity and other atmospheric factors, the lunar disk's color may range from yellow-orange to coppery red or even





▲ The partially eclipsed Moon sets at sunrise on May 26, 2021, as seen from Anarchist Mountain, east of Osoyoos, British Columbia, Canada.

ruddy brown. Whatever the hue, the near-total aspect of the eclipse guarantees a colorful and beautiful sight, with the Moon floating some $5\frac{1}{2}^\circ$ south-southwest of the Pleiades cluster around the time of maximum eclipse.

You might try your hand at carefully noting the Moon's appearance so that you can compare one eclipse with another. The Danjon scale is typically used to estimate the Moon's brightness and color during a total eclipse. But there's no reason you can't put it to use during this near-total event by hiding the Moon's uneclipsed edge behind a building. The scale ranges from $L=0$ for a very dark eclipse to $L=4$ for a bright, copper-red or orange eclipse.

Another fun project is to carefully time when the umbral shadow crosses prominent craters. Such crater timings help gauge the size of Earth's shadow, which can vary depending on the state of our planet's atmosphere. Roger Sinnott, a *Sky & Telescope* Senior Contributing Editor, plans to update predictions for umbral immersion and emersion times for selected craters on the magazine's website (skyandtelescope.org) prior to the eclipse. He'd be happy to receive your observations at roger.sinnott@verizon.net. ***