Lunar eclipses in 2027 for families: no blood Moon, three faint ones

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There is no total lunar eclipse (blood Moon) in 2027. The three 2027 lunar eclipses are all penumbral: 20 February, 18 July and 17 August, which the whole US can see.

There is no blood Moon in 2027. A blood Moon is a total eclipse of the Moon, when it turns dark red, and none happens anywhere on Earth in 2027. There are three lunar eclipses, on 20 February, 18 July and 17 August 2027, but NASA's tables list all three as penumbral: the Moon only passes through the pale outer edge of Earth's shadow and dims a little, so most people can't tell anything is happening. The best one for the US is the night of 16 to 17 August, when the Moon is up in every US city in our table. The next total lunar eclipse the US can see is on 26 June 2029. Peabody's Eclipse center lists all three with where the Moon is up.

Every date and type here comes from NASA's table of lunar eclipses from 2021 to 2030 by Fred Espenak, read on 31 October 2026, and from Peabody's own eclipse table, worked out with astronomy-engine. The two agree to within two minutes.

Three kinds of lunar eclipse

A lunar eclipse happens at full Moon, when Earth is exactly between the Sun and the Moon and Earth's shadow falls on the Moon. Earth's shadow has two parts: a dark middle, the umbra, and a pale outer ring, the penumbra.

- Total: the whole Moon goes into the dark middle. NASA explains why it turns red: Earth blocks most of the sunlight, and the light that does reach the Moon is filtered through a thick slice of Earth's air, "as if all of the world's sunrises and sunsets are projected onto the Moon." That red is why people call it a blood Moon.
- Partial: part of the Moon goes into the dark middle, and it looks as if a bite has been taken out.
- Penumbral: the Moon only goes through the pale outer ring. NASA's own description of that stage is that the Moon begins to dim, but the effect is quite subtle.

All three 2027 lunar eclipses are the third kind.

The three lunar eclipses of 2027

20 February 2027

Middle of the eclipse at about 23:13 UTC, which is 6:13 pm Eastern and 3:13 pm Pacific on Saturday 20 February. NASA lists it as seen from the Americas, Europe, Africa and Asia, but for most of the US the Moon has not risen yet at the middle of the eclipse. In our table of US cities, only New York and San Juan have the Moon up, low in the east just after it rises. Of the three, this one comes closest to the dark middle of the shadow, so it is the deepest of the faint ones. If you're on the East Coast, watch the full Moon rise that evening and see whether one edge looks a little greyer.

18 July 2027

Middle at about 16:03 UTC, which is the middle of the day in the US. NASA lists it as seen from eastern Africa, Asia, Australia and the Pacific. No part of the US sees it: in our table the Moon is down for every US city. It is also the faintest of the three.

17 August 2027

Middle at about 07:14 UTC, which is 3:14 am Eastern on Tuesday 17 August, 12:14 am Pacific, 11:14 pm in Alaska and 9:14 pm in Hawaii on Monday 16 August. NASA lists it as seen from the Pacific and the Americas, and in our table the Moon is up for every US city, from New York to Honolulu. For families in the West, and especially Hawaii, it comes at a reasonable hour. Expect a full Moon that looks slightly dimmer and greyer on one side, nothing more.

Is it worth going out?

Honestly, for the eclipse itself, only if you like a quiet look at the Moon. A penumbral eclipse is a good chance to talk about shadows, and a full Moon is always worth seeing, but there will be no red Moon and no bite. Ideas that make the night work anyway:

- Make it a full Moon night. Look at the Moon with binoculars: the craters near its edge, and the dark smooth patches across its face.
- Take two photos with a phone on a tripod, one an hour before the middle of the eclipse and one at the middle, with the same settings. Comparing them side by side shows the dimming better than eyes do.
- Explain the shadow with a lamp and a ball: hold the ball just inside the edge of your head's shadow. That faint grey is a penumbral eclipse.

Lunar eclipses are always safe to look at with bare eyes, binoculars or a telescope: it is only the Moon, in Earth's shadow. Only eclipses of the Sun need eclipse glasses. Never look at the Sun.

When is the next blood Moon?

From NASA's same table:

- 12 January 2028: a partial eclipse, seen from the Americas, Europe and Africa. In the US it is the evening of 11 January. A real bite out of the Moon, but not red all over.
- 31 December 2028: a total eclipse, a blood Moon, but seen from Europe, Africa, Asia, Australia and the Pacific, not from most of the US.
- 26 June 2029: a total eclipse seen from the Americas, Europe, Africa and the Middle East. NASA's table gives it 1 hour 42 minutes of totality. This is the next blood Moon for the US: the middle comes on the night of 25 to 26 June 2029.
- 20 December 2029: another total eclipse seen from the Americas, Europe, Africa and Asia.

The last total one the US saw was on 3 March 2026.

What families can do in 2027 instead

2027's big eclipse is the total eclipse of the Sun on 2 August, which crosses Spain, North Africa and Egypt but not the US. Our post on the August 2 2027 path of totality explains where it goes, and the overview Solar eclipse 2027 covers February's ring eclipse too. For full Moons, our guide When is the next full Moon? lists every one to the end of 2027, and the Family Sky Calendar puts them, with the three faint eclipses, into a phone calendar.

Questions families ask

Is there a blood Moon in 2027?

No. All three lunar eclipses in 2027 are penumbral, and none of them turns the Moon red.

Which 2027 lunar eclipse can the US see?

The one on 17 August 2027, in the early hours on the East Coast and around midnight on the West Coast. The Moon is up in all eight US cities in our table, from New York to Honolulu. On 20 February the Moon is up at the middle of the eclipse only for the East Coast, just after moonrise.

When is the next total lunar eclipse in the US?

On the night of 25 to 26 June 2029, by NASA's table.

Do we need eclipse glasses for a lunar eclipse?

No. A lunar eclipse is safe to watch with bare eyes. Eclipse glasses are only for eclipses of the Sun.

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nothing your child taps on the space pages is sent anywhere. For a cloudy night, the library has stories at your child's reading level.

Sources

- NASA, Fred Espenak: lunar eclipses 2021 to 2030 (dates, types, where they are seen, totality of 26 June 2029), read 31 October 2026.
- NASA: March 2026 total lunar eclipse, your questions answered (why it turns red, what the penumbral stage looks like), read 31 October 2026.
- Peabody's eclipse table (astronomy-engine) for whether the Moon is up in eight US cities.

Free at peabody.kids/blog/lunar-eclipses-2027-for-families