

Are you ready for the solar eclipse?

You may have heard of eclipses, but did you know there are two different types? A solar eclipse—the rarer kind—is happening soon. Explore these fascinating infographics to discover what causes eclipses and what you might be able to see, depending on where you live.

When one space object moves into the shadow of another space object, it is called an eclipse. There are two types of eclipses commonly seen from Earth: a solar eclipse and a lunar eclipse. The infographics below show how they happen.

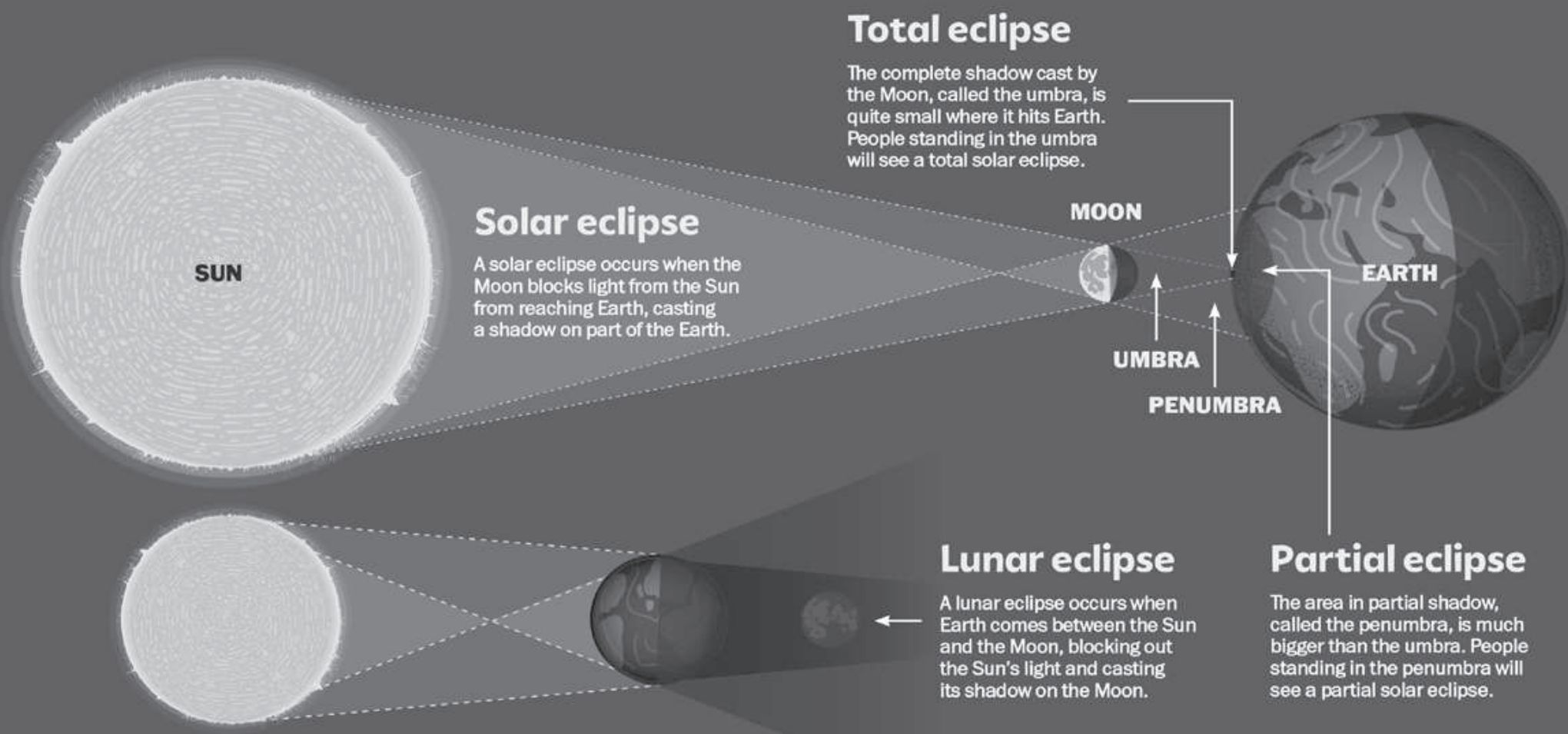
Solar eclipses are often seen as major events. This is in part because solar eclipses can only be seen from certain places on Earth, whereas a lunar eclipse can be seen from anywhere it is nighttime when the eclipse happens. Because the Moon is much smaller than Earth, its shadow only appears in a tiny spot on Earth when



WARNING!

It is very dangerous to look into the Sun, even with sunglasses. You must wear special glasses to look at an eclipse.

it passes in front of the Sun. On August 12, there will be a solar eclipse, but only part of the northeastern United States will be able to see the eclipse. In Washington, D.C., for example, the partial solar eclipse will only cover only about 3.7% of the Sun. In northern Maine, it will cover almost a third of the Sun.



A total solar eclipse, as seen from Earth

When the Sun, Moon and Earth line up exactly, it causes a total solar eclipse in which the Moon completely covers the Sun, blocking out its light. This perfect alignment of the Sun and Moon in the sky, which astronomers call a totality, is possible only because of an astonishing coincidence, which is that the Sun is both



400 times bigger than the Moon and 400 times farther away. This combination means that the Moon covers the Sun perfectly in the sky. Only people in the umbra (see above) can see the totality. On August 12, people in Greenland and Iceland will be able to see the totality. The visual phases of a total solar eclipse are shown below.



LUNAR ECLIPSE	SOLAR ECLIPSE
Two times a year, on average	Two to five times a year
OCCURRENCE	OCCURRENCE
1 h 45 min	7 min 32 sec
LASTS FOR	LASTS FOR
Anywhere on Earth (at night)	Only some places on Earth
VISIBLE FROM	VISIBLE FROM

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