

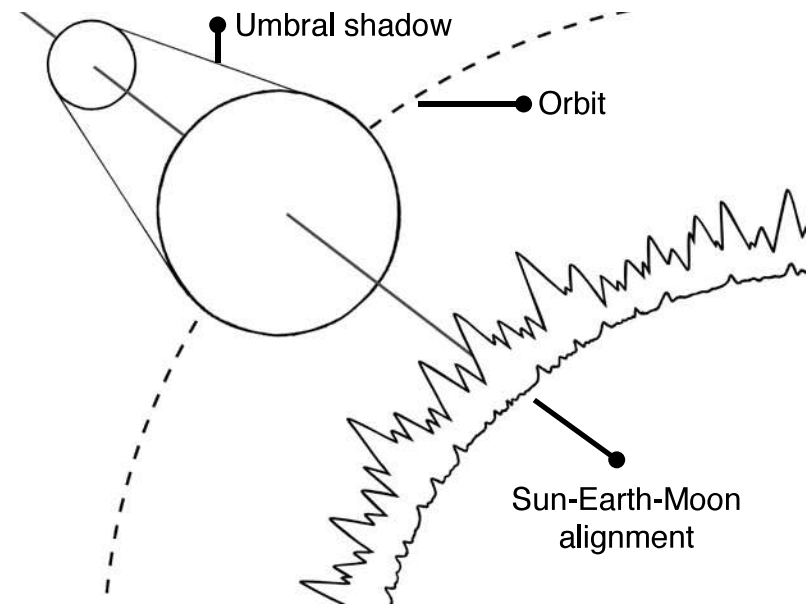
Eclipse

Eclipses happen when the Sun, Earth, and Moon align in just the right way. This **Sun-Earth-Moon alignment**, also known as a syzygy, is what leads to the Moon blocking the Sun or the Earth to come between the Sun and the Moon.

A solar eclipse happens when the Moon moves between the Earth and the Sun, casting a shadow on Earth. If you're in the darkest part of that shadow, called the **umbral shadow**, the Sun can be completely blocked out for a short time.

A lunar eclipse happens when Earth moves between the Sun and the Moon, and Earth's shadow falls on the Moon. These alignments don't happen every month because the Moon's **orbit** is tilted compared to Earth's path around the Sun, so the shadows usually miss. But when everything lines up just right, we get an amazing eclipse!

Eclipses seem rare, but they actually happen somewhere on the Earth about once every eighteen months. But thanks to the dynamics of the Earth-Moon orbital system and Earth's rotation, any given spot on Earth's surface only sees a total solar eclipse about once every 375 years. You usually only notice solar eclipses when you're near or in the path of totality, which cuts a narrow path across Earth's surface. This is what makes being in that path so exciting.



Speaking of the Heliosphere...

Solar eclipses are experienced less frequently in Alaska than at lower latitudes. This is because the Moon's **umbral shadow** rarely crosses the polar latitudes on Earth. Have you ever seen a solar eclipse? Where were you when you had that experience?



In the Interior Alaska village of Nulato, people use the Lower Koyukon Athabascan word **yeege'** for *shadow*. To hear the word yeege' and other Lower Koyukon Athabascan words spoken, scan the QR code.

