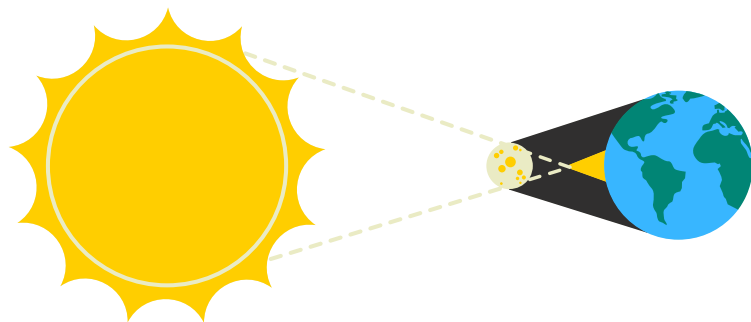


FAST FACTS

Total Solar Eclipses



Total solar eclipses occur when the umbra (shadow) of the moon fully covers a portion of the Earth. This happens when the moon lines up directly with the sun.



Did You Know?
The Maya had such a robust understanding of astronomy they were able to predict the solar eclipse of 1991 centuries before it happened

Total Solar Eclipse Phases

Partial Eclipse begins: The moon becomes visible in the sun's outline

Total Eclipse begins: The moon covers the entire sun. Shadow bands, the diamond ring effect, and Bailey's beads are visible

Totality: Only the corona of the sun is visible and the sky goes dark

Total Eclipse ends: The moon starts to move away from the sun. Shadow bands, the diamond ring effect and Bailey's beads are visible

Partial Eclipse ends: The sun becomes fully visible again

Eclipse Special Effects

Shadow Bands: Mysterious bands of moving light that can be seen 1 minute before and after totality. They are a result of Earth's atmosphere refracting the final rays of sunlight

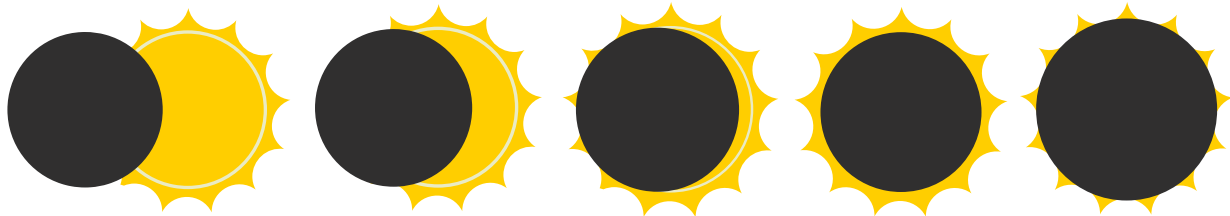


Diamond Ring: About 10-15 seconds before totality begins and ends a bright light resembling a diamond can be seen. This light represents the last edge of the sun being covered

Baily's Beads: Explained in 1836 and named for Francis Baily, Baily's beads are bead-like strings of light that can be seen 5 seconds before and after totality. They are the result of the mountains and valleys on the moon



Did you know? The longest period of totality in the 21st century occurred in 2009 and lasted for 6 minutes and 39 seconds.



Fun Facts

1. Sygyzy is the term for when the Sun, Earth, and Moon are aligned
2. This year, totality will last a maximum of 4 minutes and 28 seconds
3. The next total solar eclipse in the continental US is in 2044
4. The ambient air temperature will drop ~10 degrees during totality
5. Einstein's Theory of Relativity was proven during a solar eclipse by observing the locations of stars

Safety Tips

Solar eclipses should **never** be viewed without eye protection. Sunglasses **will not** protect your eyes. Additionally, cameras and binoculars without the proper filters **will not** protect you eyes.



Instead, solar eclipse specific glasses should be worn. These glasses are at least 1,000 times darker than sunglasses. Make sure any eclipse glasses you use are ISO-compliant before using them.



Will you be in the path of totality?

