

SAFELY observing THE SUN+ MOON

WARNING! Never look directly at the sun without proper eye protection. You can ***seriously*** injure your eyes.



Check with local science museums, schools and astronomy clubs for eclipse glasses—or purchase an ISO 12312-2 compliant pair of these special shades!



View the eclipse with special eclipse glasses.



Regular sunglasses are not safe to view the eclipse.

SUN FUNNEL



Inexpensive and easy to build, the sun funnel is a device that completely encloses the light coming from a telescope and projects a magnified image of the sun, large enough for many people to view at once.
<http://eclipse2017.nasa.gov/make-sun-funnel>

Eye Safety During an Annular Eclipse: October 14, 2023

The Sun is never completely blocked by the Moon during an annular solar eclipse. Therefore, during an annular eclipse, **it is never safe to look directly at the Sun without specialized eye protection designed for solar viewing.**

When watching an annular solar eclipse directly with your eyes, you must look through safe solar viewing glasses (“eclipse glasses”) or a safe handheld solar viewer at all times. Eclipse glasses are NOT regular sunglasses; regular sunglasses, no matter how dark, are not safe for viewing the Sun.

Eye Safety During a Total Solar Eclipse: April 8, 2024

Except during the brief total phase of a total solar eclipse, when the Moon completely blocks the Sun’s bright face, it is not safe to look directly at the Sun without specialized eye protection for solar viewing.

Viewing any part of the bright Sun through a camera lens, binoculars, or a telescope without a special-purpose solar filter secured over the front of the optics will instantly cause severe eye injury. When watching the partial phases of the solar eclipse directly with your eyes, which happens before and after totality, you must look through safe solar viewing glasses (“eclipse glasses”) or a safe handheld solar viewer at all times.

Eclipse glasses are NOT regular sunglasses; regular sunglasses, no matter how dark, are not safe for viewing the Sun. [Safe solar viewers](#) are thousands of times darker and must comply with the [ISO 12312-2](#) international standard.

Resources:

[Safety | Eclipses – NASA Solar System Exploration](#)

[Safety | 2023 Annular Eclipse – NASA Solar System Exploration](#)

[Safety | 2024 Total Eclipse – NASA Solar System Exploration](#)

EYE SAFETY DURING AN ECLIPSE



It's NEVER safe to look directly at the sun, except when the sun is completely blocked during the period of a total eclipse known as *TOTALITY*.



1

PARTIAL ECLIPSE • GLASSES ON

The eclipse begins when the sun's disk is partially blocked by the moon. This partial eclipse phase can last over an hour.



2

DIAMOND RING • GLASSES ON

Shortly before totality, the crescent sun converges into a single brilliant "diamond" of sunlight as the last bit of the sun's bright disk shines along the edge of the moon, while the first glimpses of the faint corona create a "ring" around the moon.



3

BAILY'S BEADS • GLASSES ON

In the last little moment before totality, you may see the "diamond ring" break up into "beads" created as the sun's light shines through the low-lying valleys along the edge of the moon. These are called Baily's Beads.



4

TOTALITY • GLASSES OFF

Once the Baily's Beads disappear and the moon completely covers the entire disk of the sun, you may safely look at the eclipse without a solar filter. Be careful to protect your eyes again before the end of totality—the total eclipse may last less than a minute in some locations.



5

FINAL STAGES • GLASSES ON

A crescent will begin to grow on the opposite side of the sun from where the diamond ring appeared at the beginning. This crescent is the lower atmosphere of the sun, beginning to peek out from behind the moon and it is your signal to stop looking directly at the eclipse. *Make sure you have safety glasses back on—or are otherwise watching the eclipse through a safe, indirect method—before the first flash of sunlight appears around the edges of the moon.*

Images 1, 2, 4, 5 Credit: Rick Fienberg, TravelQuest International and Wilderness Travel
Image 3 Credit: Arne Danielson

