

How to View the 2017 Solar Eclipse Safely

Adapted from NASA Document



A solar eclipse occurs when the moon blocks any part of the sun. On Monday, August 21, 2017, a solar eclipse will be visible (weather permitting) across all of North America. The whole continent will experience a partial eclipse lasting two to three hours. Halfway through the event, anyone within a roughly 70-mile-wide path from Oregon to South Carolina (<https://go.nasa.gov/2pC0lhe> (link is external)) will experience a brief total eclipse. This happens when the moon completely blocks the sun's bright face for up to 2 minutes 40 seconds, turning day into night and making visible the otherwise hidden solar corona — the sun's outer atmosphere and one of nature's most awesome sights. Bright stars and planets will become visible as well.



Looking directly at the sun is unsafe except during the brief total phase of a solar eclipse (“totality”), when the moon entirely blocks the sun's bright face. This will happen only once within the narrow path of totality (<https://go.nasa.gov/2pC0lhe> (link is external)).

The only safe way to look directly at the normal sun or partially eclipsed sun is through special-purpose solar filters, such as “eclipse glasses” (example shown at left) or hand-held solar viewers. Homemade filters or ordinary sunglasses, even very dark ones, are not safe for looking at the sun. To date, four manufacturers have certified that their eclipse glasses and handheld solar viewers meet the ISO 12312-2 international standard for such products: Rainbow Symphony, **American Paper Optics**, Thousand Oaks Optical, and TSE 17.

In addition, you should:

- Always inspect your solar filter before using it. If it is scratched or damaged, discard it. Read and follow any instructions printed on or packaged with the filter. Always supervise children using solar filters.
- Stand still and cover your eyes with your eclipse glasses or solar viewer before looking up at the bright sun. After glancing at the sun, turn away and remove your filter — do not remove it while looking at the sun.
- Do not look at the un-eclipsed or partially eclipsed sun through an unfiltered camera, telescope, binoculars, or other optical device.
- Do not look at the sun through a camera, a telescope, binoculars, or any other optical device even while using your eclipse glasses or hand-held solar viewer — the concentrated solar rays will damage the filter and enter your eye(s), causing serious injury. Seek expert advice from an astronomer before using a solar filter with a camera, a telescope, binoculars, or any other optical device.
- If you are within the path of totality (<https://go.nasa.gov/2pC0lhe> (link is external)), remove your solar filter only when the moon completely covers the sun's bright face and it suddenly gets quite dark. Experience totality, then, as soon as the bright sun begins to reappear, replace your solar viewer to glance at the remaining partial phases.

A solar eclipse is one of nature's grandest spectacles. By following these simple rules, you can safely enjoy the view and be rewarded with memories to last a lifetime. You can find more information here:

eclipse.aas.org (link is external)

eclipse2017.nasa.gov

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Apps that give exact times are listed below.

Totality App	Smithsonian Solar Eclipse App
http://www.bigkidscience.com/eclipse/	http://smithsonian-eclipse-app.simulationcurriculum.com/download.html
	

Times currently given for Lexington, South Carolina.

Eclipse Glasses Needed	Eclipse Glasses NOT Needed		Eclipse Glasses Needed
Eclipse Start Time	Totality Start Time	Totality End Time	Eclipse End Time
1:12:40 p.m.	2:41:25 p.m.	2:44:01 p.m.	4:06:05 p.m.

Times vary slightly (by seconds) across the rest of the Lexington County area. Please use the apps listed above for exact times.

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