

How to View the 2017 Solar Eclipse Safely

Abridged from NASA and American Astronomical Society – eclipse2017.nasa.gov; published in the Eclipse 2017 activities guide for the northeast Willamette Valley by Mt. Angel Publishing.

A solar eclipse occurs with 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 2 to 3 hours. Halfway through the event, anyone within a roughly 70-mile-wide path from Oregon to South Carolina will experience a brief total eclipse. That's when the Moon completely blocks the Sun's light, turning day into night and making visible the otherwise hidden Solar Corona, the Sun's outer atmosphere. It's one of nature's most awesome sights. Bright stars and planets can become visible as well.

Looking directly at the Sun is unsafe except during the brief total phase of a solar totally eclipse, when the Moon entirely blocks the Sun's bright face, which will happen only within the narrow Path of Totality.

The only safe way to look directly at the uneclipsed or partially eclipsed Sun is through special-purpose solar filters such as "eclipse glasses" or handheld 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.

Always inspect your solar filter before use; if 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 uneclipsed or partially eclipsed Sun through an unfiltered camera, telescope, binoculars, or optical device. Similarly do not look at the Sun through a camera, telescope, binoculars or any other optical device while using your eclipse glasses or handheld solar viewer. The concentrated solar rays will damage the filter and enter your eye(s), causing serious injury. Seek expert advice from astronomer before using a solar filter with a camera, telescope, binoculars, or any other optical device.

An alternative method for safe viewing of the partially eclipsed Sun is pinhole projection. Search the internet for examples on how to do this.

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.

For more information and safety tips also check: eclipse.aas.org, eclipse2017.nasa.gov/safety, and nasa.gov/content/eye-safety-during-a-total-solar-eclipse.