



## Total Solar Eclipse, Monday August 21, 2017, 10:20 am

*One of nature's most awe inspiring sights - a total solar eclipse!*

On Monday, August 21, all of North America will be treated to an eclipse of the sun. Since Longview is in the 97% path, just 3% of the sun will be visible at the peak of the eclipse, expected to occur around 10:20 am.

To watch the eclipse at LCC join Continuing Education at the Health & Science Building starting at 9 am for an educational lecture, followed by the viewing. Details at [Corporate & Continuing Education](#) .

***Please be aware that no matter how you choose to view the eclipse, it is important to protect your eyes.***

### Important Eye Safety Information – *Never Look Directly at the Sun*

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 hand-held solar viewers. Homemade filters or ordinary sunglasses, even very dark ones, are not safe for looking at the sun; they transmit thousands of times too much sunlight. Refer to the [American Astronomical Society \(AAS\) Reputable Vendors of Solar Filters & Viewers](#) for a list of manufacturers and authorized dealers of eclipse glasses and handheld solar viewers verified to be compliant with the ISO 12312-2 international safety standard for such products.

#### **Be sure to:**

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 looking 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 other optical device.

Similarly, do not look at the sun through a camera, a telescope, binoculars, or any other optical device 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. Note that solar filters must be attached to the front of any telescope, binoculars, camera lens, or other optics.

If you are within the [path of totality](#), 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 look at the remaining partial phases. Outside the path of totality, you must always use a safe solar filter to view the sun

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directly. **If you normally wear eyeglasses, keep them on. Put your eclipse glasses on over them.**

## **Additional Safety Information**

An eclipse is a rare and striking phenomenon you won't want to miss, but you must carefully follow safety procedures. Don't let the requisite warnings scare you away from witnessing this singular spectacle! You can experience the eclipse safely, but it is vital that you protect your eyes at all times with the proper solar filters. No matter what recommended technique you use, **do not stare continuously at the sun.** Take breaks and give your eyes a rest! **Do not use sunglasses: they don't offer your eyes sufficient protection.** The only acceptable glasses are [safe viewers designed for looking at the sun and solar eclipses](#).

## **Viewing with Protection**

Experts suggest that one widely available filter for safe solar viewing is welder's glass of sufficiently high number. The only ones that are safe for direct viewing of the Sun with your eyes are those of Shade 12 or higher. These are much darker than the filters used for most kinds of welding. If you have an old welder's helmet around the house and are thinking of using it to view the Sun, make sure you know the filter's shade number. If it's less than 12 (and it probably is), don't even think about using it to look at the Sun. Many people find the Sun too bright even in a Shade 12 filter, and some find the Sun too dim in a Shade 14 filter — but Shade 13 filters are uncommon and can be hard to find. The [AAS Reputable Vendors of Solar Filters & Viewers](#) page doesn't list any suppliers of welder's filters, only suppliers of special-purpose filters made for viewing the Sun. Learn more about [eyewear and handheld viewers](#).

## **Telescopes with Solar Filters**

Eclipses are best viewed directly when magnified, which means a [telescope with a solar filter or solar telescopes](#). These will give you a magnified view that will clearly show the progress of an eclipse. Never look through a telescope without a solar filter on the large end of the scope. And never use small solar filters that attach to the eyepiece (as found in some older, cheaper telescopes.)

## **Pinhole and Related Projection Methods**

Pinhole projectors and other projection techniques are a safe, indirect viewing technique for observing an image of the sun. These provide a popular way for viewing solar eclipses. One viewing technique is to project an image of the sun onto a white surface with a projecting telescope. This is explained further at [Universe in the Classroom](#).

The [Exploratorium demonstrates how to view a planet in transit or an eclipse safely by projecting the image with binoculars](#). There are commercially available projection telescopes as well.