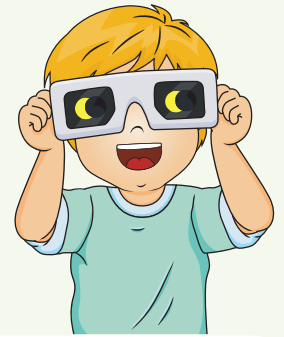


SAFE VIEWING OF A SOLAR ECLIPSE

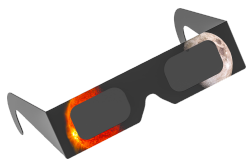


The next total solar eclipse will cross North America on April 8, 2024. Eclipses are a unique opportunity for observation and science. If you get a chance to see it, make sure to take care of your vision during the eclipse.



IS STARING AT THE SUN BAD FOR YOUR EYES?

Yes. Watching a solar eclipse is a memorable experience, but looking directly at the sun can seriously damage your eyes. Staring at the sun for even a short time without wearing the right eye protection can damage your retina permanently. It can even cause blindness, called solar retinopathy. Ordinary sunglasses, even very dark ones, or homemade filters are not safe for looking at the sun.



HOW TO SAFELY WATCH A SOLAR ECLIPSE:

Eclipse glasses can be used to watch a solar eclipse safely. They must meet a very specific worldwide standard known as ISO 12312-2. There have been reports that some companies are selling counterfeit products labeled as if they conform to international safety standards (ISO). Do not search for eclipse glasses on the internet and buy whatever pops up in the ads or search results. Check the [American Astronomical Society list of reputable vendors](#) whose products conform to ISO standards and buy from one of them. You may also contact CCCHD and we can provide glasses to you at no cost.

How do I use ISO approved eclipse glasses to protect my eyes?



Carefully look at your eclipse glasses before using them. If you see any scratches or damage, do not use them, as they will not protect your eyes.



Help children to use eclipse glasses correctly. If you normally wear eyeglasses, keep them on and put your eclipse glasses on over them.



Eclipse glasses should first be used to look at a lamp or light bulb, to ensure that it can't be seen. Only the sun should be visible through genuine eclipse glasses.



Before looking up at the bright sun, cover your eyes with your eclipse glasses. After glancing at the sun, turn away and remove your filter—do not remove it while looking at the sun.



The only time that you can look at the sun without eclipse glasses safely is during the moment of total eclipse. As the moon covers the last 1% of the sun over the course of a minute or so, daylight fades by 10,000 times. According to the American Academy of Ophthalmology, *"when the moon completely covers the sun's bright face and it suddenly gets dark, you can remove your solar filter to watch this unique experience. Then, as soon as the bright sun begins to reappear very slightly, immediately use your solar viewer (eclipse glasses) again to watch the remaining partial phase of the eclipse"*.

I don't have eclipse glasses. Are there other ways to safely view the solar eclipse?

Another way to see the eclipse is through a pinhole projection or video display. A pinhole viewer lets you project an image of the sun onto another surface, like paper, a wall or pavement. The image of the sun is safe to look at throughout the eclipse. [Learn how to make a pinhole projector](#) or shop for one of these safe-viewing devices. The eclipse can also be viewed on the web, on social media, on NASA apps, and on YouTube <https://eclipse.aas.org/resources/livestreams>.

Can I look at the solar eclipse through unfiltered binoculars or take a photo with my unfiltered cellphone camera?







No, even if you are wearing eclipse glasses or holding a solar viewer over your eyes at the same time, the intense solar rays coming through unfiltered camera, telescope, or binoculars will damage the solar filter and your eyes. Never look at the uneclipsed or partially eclipsed sun through an unfiltered camera, telescope, binoculars, or other similar devices. A special solar filter must be attached to the front of your telescope, binoculars, or camera lens. Talk with an expert astronomer if you want to use a special solar filter with a camera, a telescope, or binoculars.

How do I know if I damaged my eyes during the eclipse?

If your eyes feel a little funny after an eclipse, it may not be a sign of solar retinopathy. Damage from the eclipse is unlikely to cause pain or discomfort in your eyes because the retina does not have any pain nerves. Instead, you would notice visual symptoms within four to six hours. But some may notice symptoms after 12 hours.

Clark County
Combined
Health District

What are the symptoms of eye damage from an eclipse?

- | | | | | | |
|---|--------------------------------|---|----------------------|--|---|
|  | Blurry vision |  | Headache |  | A blind spot in your central vision in one or both eyes |
|  | Increased sensitivity to light |  | Altered color vision |  | Distorted vision, in which a straight line looks bent, or a door jamb looks curvy |

What should I do if I experience eye symptoms and am concerned that I may have eye damage?

It is important to see your ophthalmologist (eye doctor) if you experience difficulties with your vision. An ophthalmologist will take a scan of the eye to see the extent of any damage. There is no treatment for solar retinopathy. Many people recover after three to six months, but some will suffer from permanent vision loss, in the form of a small blind spot and distortion.

Is it safe to clean eclipse glasses?

Eclipse glasses may be wiped clean with any soft, nonabrasive microfiber cloth. Baby wipes and other wet wipes are not suitable. Cardboard must be kept dry; if it gets wet, it will swell and likely detach from the lenses. Do not use water, glass cleaner, or any other solvents or liquids to clean cardboard eclipse glasses.