Eclipse Viewing Permission Slip

Students can view the Total Solar Eclipse occurring on April 8, 2024. Students will go outside to view the eclipse as it approaches totality and participate in some activities to learn about eclipses and how they occur. Viewing glasses will be provided by the school.

If you are interested in volunteering, we are looking for two caregiver volunteers per class. Students who opt-out or do not return this form will view the eclipse via a live video feed as it's occurring. Reach out to noah.pfaffl@gdrh.org and lalitha.murali@gdrh.org with questions. This form is **DUE March 22, 2024, to your science teacher.**

Caregivers fill out this portion:

Student Name: _____ Grade: _____

Please put an "X" in your response.

- ☐ **Yes,** I permit my student to participate in viewing the eclipse.
- ☐ **No,** I do not permit my student to view the eclipse.

Willing to volunteer (circle)? **Y/N**

Caregiver email (if volunteering): _____

Caregiver Signature: _____ Date: _____

Caregiver Name (Print): _____

Students fill out this portion:

I, _____ (print name), will abide by expectations and wear the eclipse viewing glasses given to me the entire time I am watching the eclipse. I understand following this policy may result in dismissal from the viewing.

Student Signature: _____Date: _____

Experience a Solar Eclipse

Credit: S. Habbal, M. Druckmüller and P. Aniol

WHAT IS A SOLAR ECLIPSE?

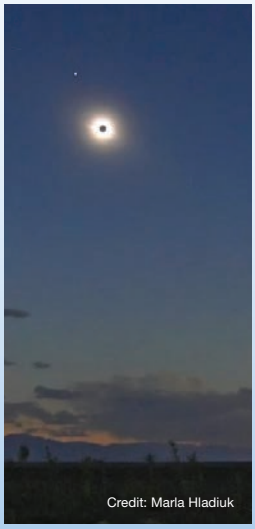
A solar eclipse happens when the Moon moves between the Sun and Earth, casting a shadow on Earth, fully or partially blocking the Sun's light in some areas. There are different types of solar eclipses.

Total Solar Eclipse
For a total eclipse to take place, the Sun, Moon, and Earth must be in a direct line. The people who see the total eclipse are in the center of the Moon's shadow when it hits Earth. The sky will become very dark, as if it were night. Weather permitting, people in the path of a total solar eclipse can see the Sun's corona, the outer atmosphere of the Sun. A total solar eclipse is the only type of solar eclipse where viewers can watch without their eclipse glasses – and they can only remove them when the Moon is completely blocking the Sun.

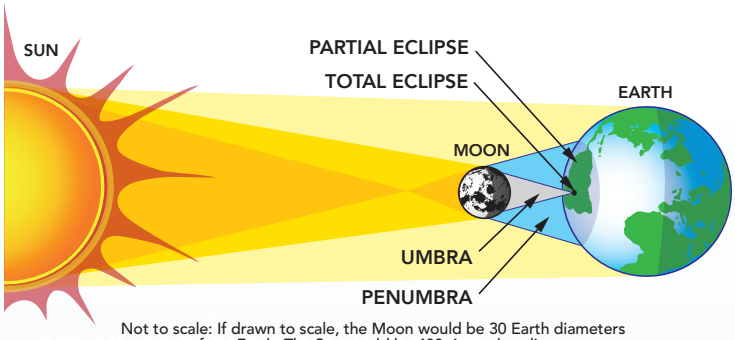
Annular Solar Eclipse
An annular eclipse happens when the Moon is lined up between the Sun and Earth, but at its farthest point from Earth. Because the Moon is farther away from Earth, it seems smaller. It does not block the entire view of the Sun. The Moon in front of the Sun will look like a dark disk on top of a larger, bright disk. This creates what looks like a ring around the Moon.

Known as a hybrid eclipse, sometimes an eclipse can shift between annular and total as the Moon's shadow moves across Earth's surface.

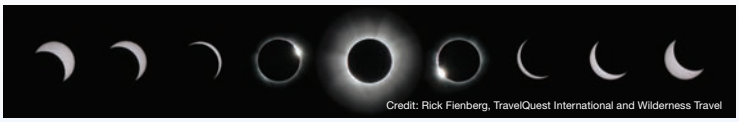
Partial Solar Eclipse
This happens when the Sun, Moon and Earth are not exactly lined up. The Sun will appear to have a dark shadow on only part of its surface. During a total or annular solar eclipse, people outside the Moon's inner shadow see a partial solar eclipse.


Credit: Marla Hladiuk

TOTAL SOLAR ECLIPSE



Not to scale: If drawn to scale, the Moon would be 30 Earth diameters away from Earth. The Sun would be 400 times that distance.

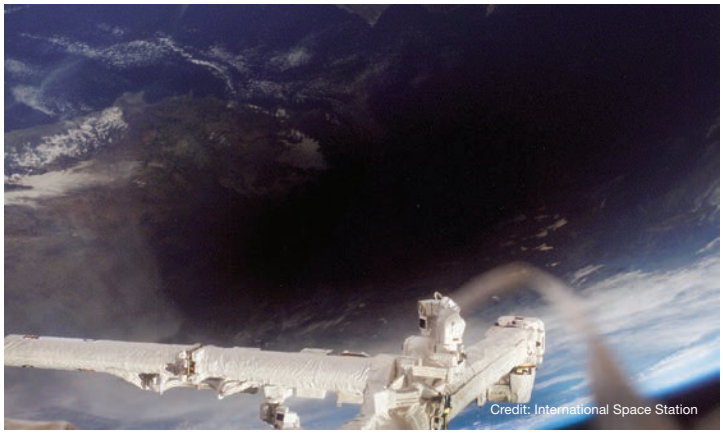

Credit: Rick Fienberg, TravelQuest International and Wilderness Travel

In this series of stills from 2013, the eclipse sequence runs from right to left. The center image shows totality; on either side are the 2nd contact (right) and 3rd contact (left) diamond rings that mark the beginning and end of totality respectively.

WHERE TO WATCH
Find a nice, clear spot with a good view of the sky.

HOW TO WATCH
You can see the Sun and an eclipse with special eclipse or solar viewing glasses. NEVER look directly at the Sun without appropriate eyewear. Regular sunglasses are not safe to view an eclipse. *https://go.nasa.gov/342otvS*

HOW LONG WILL IT LAST
A total eclipse, when the Sun is completely blocked by the Moon, will last up to a few minutes, depending on your location.


Credit: International Space Station

This photo taken from the International Space Station shows the Moon's umbral, or inner, shadow during the total solar eclipse of March 29, 2006.

SAFELY observing THE SUN

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! Always inspect your solar filter before use. If scratched or damaged, discard it.

View the eclipse with special eclipse glasses.

Regular sunglasses are not safe to view the eclipse.

BUILD A SOLAR VIEWER

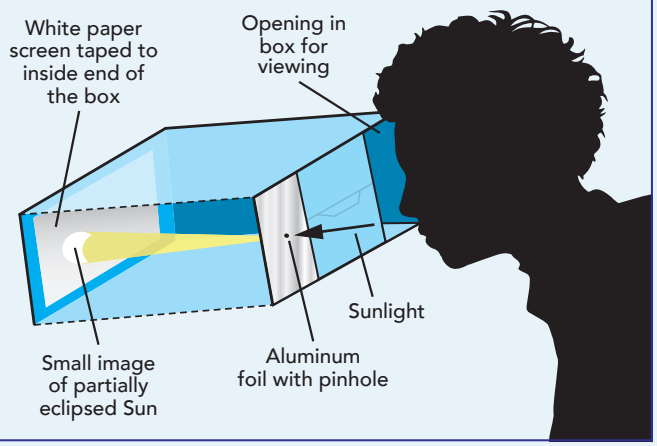
Create an inexpensive but functional, safe solar viewer with just plywood, lenses, rubber bands, paper and popsicle sticks! *https://go.nasa.gov/3yxoA0T*

MAKE YOUR OWN ECLIPSE PROJECTOR

You can make this simple eclipse projector with almost any cardboard box, paper, tape and foil.

The longer the distance from the pinhole to screen, the larger the image of the Sun will be.

NEVER look directly at the Sun without appropriate eyewear.



ECLIPSES IN THE UNITED STATES: The next solar eclipses that cross the United States are on Saturday, October 14, 2023 (Annular Solar Eclipse) and Monday, April 8, 2024 (Total Solar Eclipse).

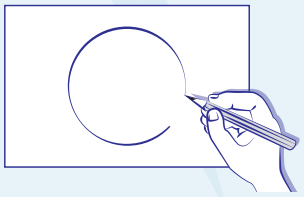
For more on eclipses: *http://www.nasa.gov/eclipse*

This product is supported by NASA under cooperative agreement number NNH15ZDA004C.

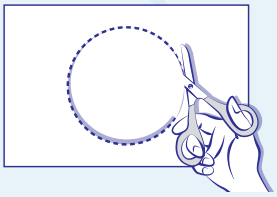
DRAW THE CORONA

Long before there were cameras or telescopes, eclipse watchers recorded what they saw in the sky in words, drawings, and paintings. You can have fun creating your own picture of a solar eclipse with chalk and paper! You can do this activity before an eclipse to predict what you'll see, or after to record what you saw.

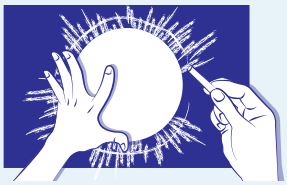
First, trace a large circle template on stiff paper.



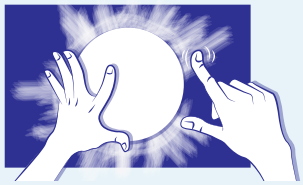
Carefully cut out the circle.



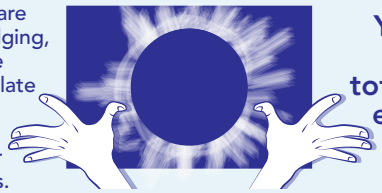
Place the template on dark paper and hold or tape it down. Draw a thick circle or lines of chalk around the template a few times — it doesn't need to be neat!



Holding the template in place, smudge the chalk away from the center of the circle using a finger to create the corona of the Sun.



When you are done smudging, remove the circle template and add words, pictures, or fun designs.



You've made total solar eclipse art!

The whole family can get involved in learning about eclipses! Morgan (age 5) and Chelsea (age 2) drew these dazzling coronas.

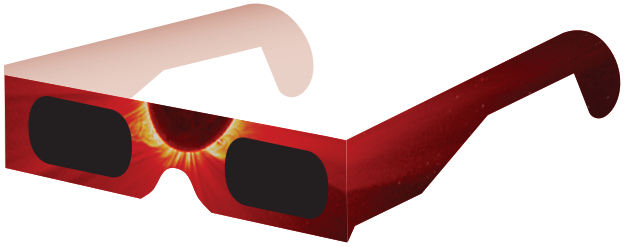
FS-2016-10-508-GSFC (Rev 5/2021)

Cómo ver de forma segura el **ECLIPSE SOLAR TOTAL** del 8 de abril de 2024

Un eclipse solar ocurre cuando la Luna bloquea cualquier parte del Sol. El lunes 8 de abril de 2024, un eclipse solar será visible en América del Norte y Central, así como en partes de Europa y América del Sur. Los 50 estados de Estados Unidos (excluyendo la mayor parte de Alaska) tendrán la oportunidad de ver al menos un eclipse solar parcial. En un estrecho recorrido a través de México, Estados Unidos desde Texas hasta Maine y Canadá desde Ontario hasta Terranova, la Luna cubrirá completamente la cara brillante del Sol, produciendo un espectacular eclipse solar total.

Un eclipse solar total es tan brillante como una luna llena, e igual de seguro de observar. Pero en cualquier otro momento, el Sol es peligrosamente brillante. Míralo solo a través de filtros solares especiales para ese propósito que cumplan con los requisitos de transmisión de la norma internacional ISO 12312-2 para filtros de observación directa del Sol.

Protege tus ojos



- Mirar directamente al Sol sin la protección ocular adecuada no es seguro, EXCEPTO durante la breve fase del eclipse total (la "totalidad"). Esto ocurre SOLO dentro del estrecho camino de la totalidad. En cualquier otro momento, SOLO es seguro mirar directamente al Sol a través de filtros solares especiales para ese propósito, como los "anteojos para eclipses", que cumplen con los requisitos de transmisión de la norma internacional ISO 12312-2. Las gafas de sol comunes, incluso las muy oscuras, no son seguras para mirar el Sol.
- Si estás dentro del camino de la totalidad el 8 de abril de 2024, puedes quitarte el filtro solar SOLO cuando la Luna cubra completamente la cara brillante del Sol. Tan pronto como el Sol comience a reaparecer, vuelve a colocarte el filtro solar para ver las fases parciales restantes.
- Fuera de la trayectoria de la totalidad, NO HAY NINGÚN MOMENTO en el que sea seguro mirar directamente al Sol sin usar un filtro solar que cumpla con los requisitos de transmisión de la norma internacional ISO 12312-2.

Instrucciones para el uso seguro de filtros y visores solares

- Examina siempre tu filtro solar antes de usarlo; no lo uses si está rayado, perforado, rasgado o dañado. Lee y sigue las instrucciones que vienen impresas o empaquetadas con el filtro.
- Siempre debes supervisar a los niños cuando utilicen filtros solares.
- Si normalmente usas anteojos, mantenlos puestos. Ponte tus anteojos para eclipses sobre ellos o sostén tu visor manual frente a ellos.
- No te muevas y cúbrete los ojos con tus anteojos para eclipses o tu visor solar antes de mirar hacia el Sol brillante. Después de mirar al Sol, date vuelta en dirección opuesta al Sol y quítate el filtro; no te lo quites mientras estés mirando al Sol.
- No mires al Sol sin eclipsar o parcialmente eclipsado a través de una cámara, telescopio, binoculares u otro dispositivo óptico que no tenga filtro. No lo hagas incluso mientras usas anteojos para eclipses o mientras tienes un visor solar manual frente a los ojos: los rayos solares concentrados podrían dañar el filtro y entrar en tus ojos, causando lesiones graves.
- Los filtros solares deben estar sujetos de forma segura a la parte frontal de cualquier telescopio, binoculares o la lente de una cámara. Busca el consejo experto de un astrónomo antes de usar un filtro solar con una cámara, telescopio, binoculares o cualquier otro dispositivo óptico.

¿Qué pasa si no tienes un filtro o visor solar seguro?

Otro método para la observación segura del Sol eclipsado parcialmente es de forma indirecta mediante la proyección estenopeica (con agujero). Por ejemplo, mientras das la espalda al Sol, cruza los dedos extendidos y ligeramente abiertos de una mano sobre los dedos extendidos y ligeramente abiertos de la otra, creando un patrón de rejilla, como un *waffle*. A la sombra de tus manos en el suelo, los espacios entre tus dedos mostrarán el Sol como medias lunas.

Un eclipse solar es uno de los espectáculos más grandiosos de la naturaleza. Al seguir estas reglas sencillas, puedes disfrutar de la vista de forma segura y ser recompensado con recuerdos para toda la vida. Para obtener más información sobre la seguridad ocular y el eclipse, visita la página (en inglés): https://eclipse.aas.org/eye-safety.

Esta información de seguridad ha sido respaldada por la Sociedad Astronómica Estadounidense, la Administración Nacional de Aeronáutica y el Espacio, la Administración Nacional Oceánica y Atmosférica, la Fundación. Nacional para las Ciencias de Estados Unidos, la Academia Estadounidense de Oftalmología, la Academia Estadounidense de Optometría y la Asociación Médica Estadounidense.

NP-2023-12-193-GSFC