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go.nasa.gov/EclipseSafety

NP-2023-2-014-GSFC

SAFETY INFORMATION

When viewing the Sun with eclipse glasses, only take the glasses off during the brief moments of totality.

Looking directly at the Sun without proper eye protection is unsafe except during the brief total phase of a solar eclipse (“totality”), when the Moon entirely blocks the Sun’s bright face, which will happen only within the narrow path of totality.

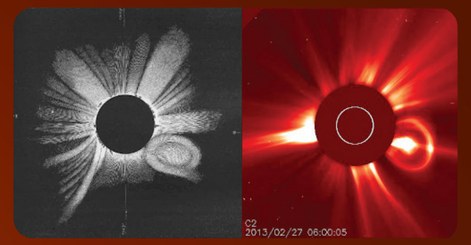
A total solar eclipse is about as bright as a full Moon — and just as safe to look at. But the Sun at any other time is dangerously bright. View it only through special-purpose solar filters that comply with the transmittance requirements of the ISO 12312-2 international standard for filters for direct solar viewing.

Credit: AAS

SEE INSIDE COVERE FOR ECLIPSE ACTIVITIES.

NASA STUDIES ECLIPSES

Eclipses aren’t just beautiful – they’re great for science. In addition to inspiring artists and musicians, eclipses have driven numerous scientific discoveries. For over a century, solar eclipses helped scientists decipher the Sun’s structure and explosive events, find evidence for the theory of general relativity, and discover the element helium, among other things.



Left: Drawing of the 1860 solar eclipse. Credit: G. Tempel.

Right: This coronagraph image was taken by the SOHO spacecraft. A coronagraph simulates a solar eclipse, blocking the Sun to reveal its outer atmosphere. Coronagraphs help us view solar eruptions like those seen in this image and in Tempel’s drawing.

NASA is funding eclipse studies to help better understand the Sun-Earth connection.

Total eclipses are a unique opportunity to study the Sun because they allow scientists to see a part of the Sun’s atmosphere – known as the corona – which is key to answering fundamental questions about how heat and energy are transferred from the Sun out into the solar wind, the constant stream of particles that the Sun scatters into the solar system.

Find More: science.nasa.gov/eclipses/nasa-research

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Find More:
go.nasa.gov/Eclipse2024

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www.nasa.gov

MONDAY, APRIL 8, 2024

2024 Total Solar eclipse

THROUGH THE EYES OF NASA

National Aeronautics and Space Administration

SCORE

TOTAL SOLAR ECLIPSE THROUGH THE EYES OF NASA

SCORE

MONDAY, APRIL 8, 2024

Eclipse Essentials: Safe and Stylish Solar Eclipse Glasses

Keep solar viewing safe, easy, and fun with this hands-on, art-infused, 25- to 30-minute activity for audiences of all ages. Engage learners in the wonders of solar viewing by having them personalize their solar eclipse glasses.

Materials:

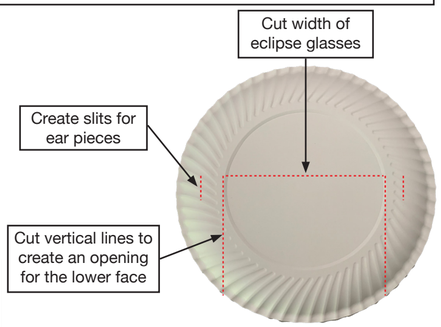
- ☐ Solar Eclipse Glasses (ISO 12312-2 Safety Standard)
- ☐ Paper Plate or Cardstock
- ☐ Pen or Pencil
- ☐ Scissors
- ☐ Tape
- ☐ Optional Supplies: Hole puncher, stapler, ruler, markers, crayons, glitter glue, feathers, adhesive gemstones, stickers, ribbon, etc.

Notes:

- Have learners decorate the plates prior to inserting the glasses, or protect the lenses by covering them with paper while decorating.
- Do not view the Sun with damaged or scratched lenses.
- Optional: Modify your design to make a crown, flowers, or any shape of your choice.

Steps:

1. Use the eclipse glasses as a template to mark the score lines on the paper plate or cardstock, following the guidelines shown in the diagram below.
2. Cut along the score lines and make the two slits for the ear pieces to slide into.
3. Slide the earpieces into each slit and adhere the glasses to the plate/cardstock by taping along the inside of the ear piece slits.
4. Observe! Use the glasses to safely observe the Sun during a solar eclipse, or at any time!



Optional: Consider punching holes in the ear pieces and securing the glasses with ribbon to help keep them on learner's faces.

science.nasa.gov/learn/heat/resource/eclipse-essentials-safe-and-stylish-solar-eclipse-glasses/

This product is supported by the NASA Heliophysics Education Activation Team (NASA HEAT), part of NASA's Science Activation

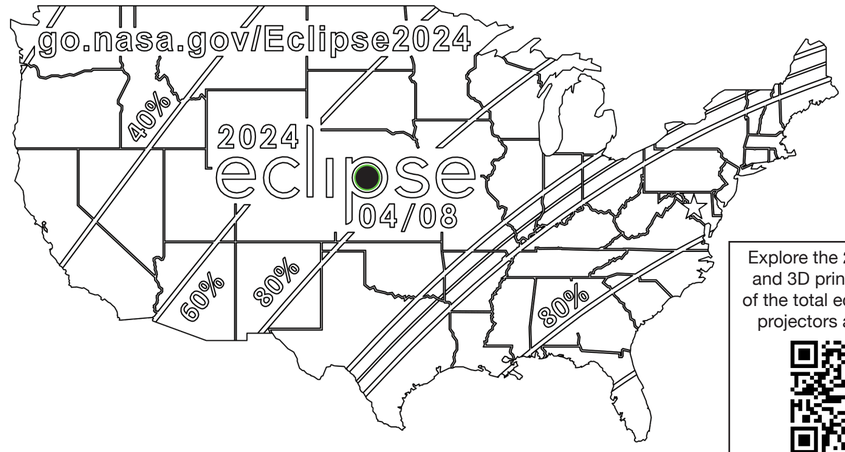
2024 Total Solar Eclipse US Pinhole Projector Activity

Pinhole projectors allowed early scientists to view the shapes of illuminated objects, like the Sun, by shining the light from the object through a very small hole, projecting the image of the object onto the ground, wall, or other flat surface. These are a great method for safe solar viewing.

Be sure that when using, the Sun is always behind you.

Instructions:

Standing with your back to the Sun, hold the folder approximately one meter above the ground, out in front of you, to allow sunlight to shine through the hole in the folder onto a flat surface.



Explore the 2D paper cut and 3D printed versions of the total eclipse pinhole projectors and activity.

nasa3d.arc.nasa.gov/detail/usa-eclipse-2024

This product is supported by the NASA Heliophysics Education Activation Team (NASA HEAT), part of NASA's Science Activation

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