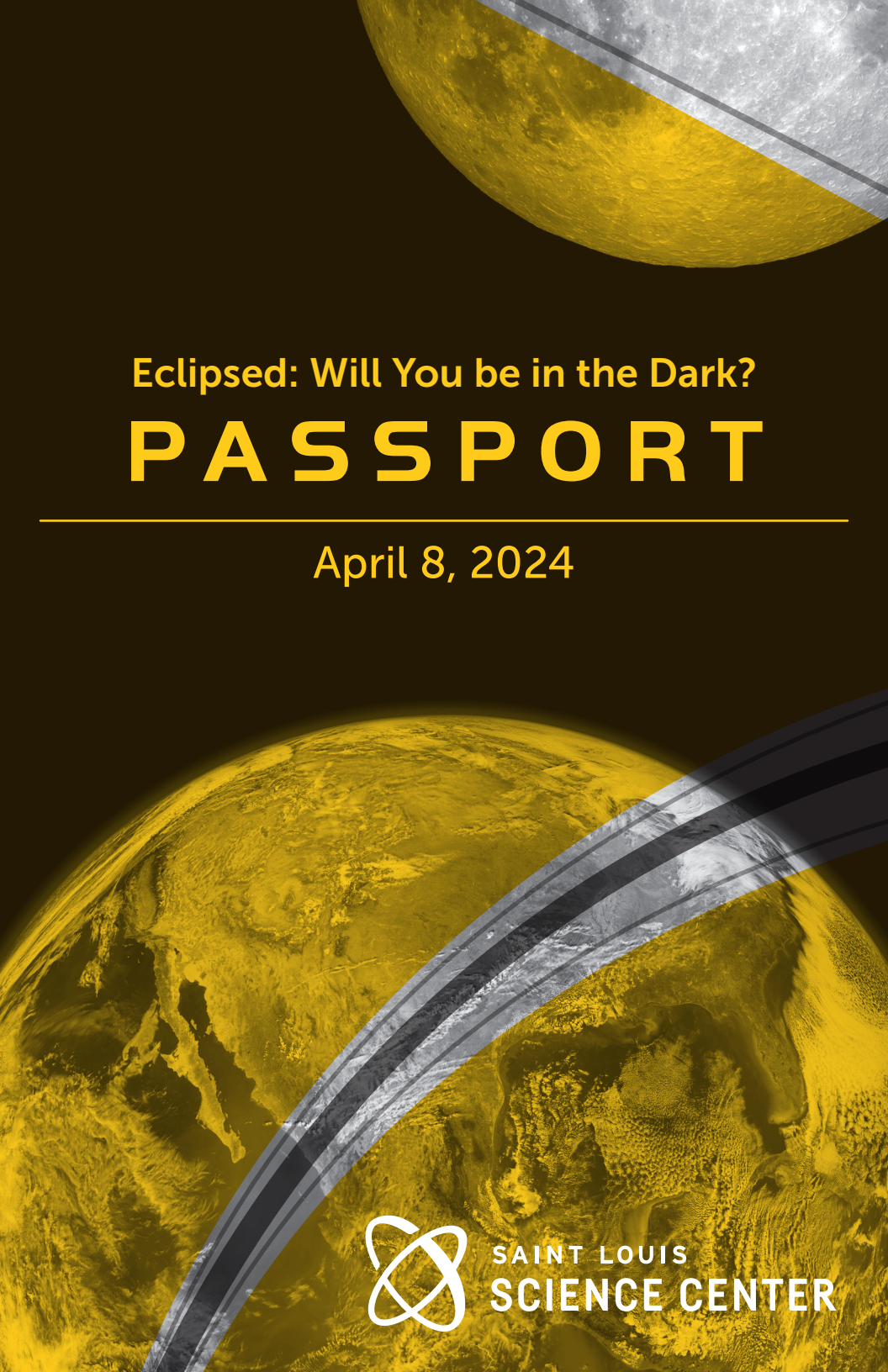




Eclipsed: Will You be in the Dark?

PASSPORT

April 8, 2024



SAINT LOUIS
SCIENCE CENTER

Personal Eclipse Information

This Passport belongs to

I live in

I will see a **Partial** or **Total** eclipse from my house. *(Circle one)*

The eclipse will begin at _____ on April 8, 2024.



Welcome!

On April 8, 2024 the last total solar eclipse visible in the United States for over 21 years will pass south of St. Louis over southern Missouri and Illinois.

Use your passport to learn some quick facts, myths, and historic events connected to eclipses, to uncover why this event is so important.

Pick up safety tips for safe solar observation.

Become a citizen scientist by documenting your firsthand experiences during the eclipse.



Safety Tips

Have you ever gone out on a bright, sunny day without sunglasses? Did you squint? Our eyes will naturally try to protect us from the Sun's rays by limiting the amount of light they let in.

During the total solar eclipse, you will need to watch the Sun with approved solar viewing equipment. It is important to remember that even though the Moon will block parts of the Sun, any part that left exposed will be very bright and could damage our eyes.

There is one extraordinary moment during the total solar eclipse when you can take off your eye protection. At that moment, called **totality**, the Moon completely blocks the Sun. Right before totality ends, you must put your eye protection back on.

Visit slsc.org/eclipseinfo to figure out when totality will begin and end at your location.

Write your totality times down here:

Totality Begins _____

Totality Ends _____

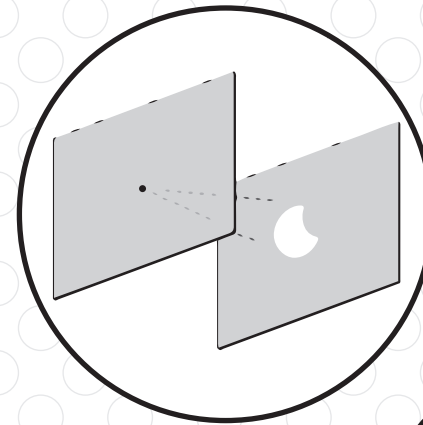
During the times listed above, only the corona will be visible. The corona consists of ionized elements, is hotter than the temperature of the Sun, and is only about as bright as the Moon.



Credits: M. Druckmüller

The easiest safe way to view the eclipse is with some eclipse glasses. You can get these at the Science Center gift shop or bundled with the James S. McDonnell Planetarium's ECLIPSE Star Show!

If you are not able to get eclipse glasses, here are some other ways you can safely watch the event.

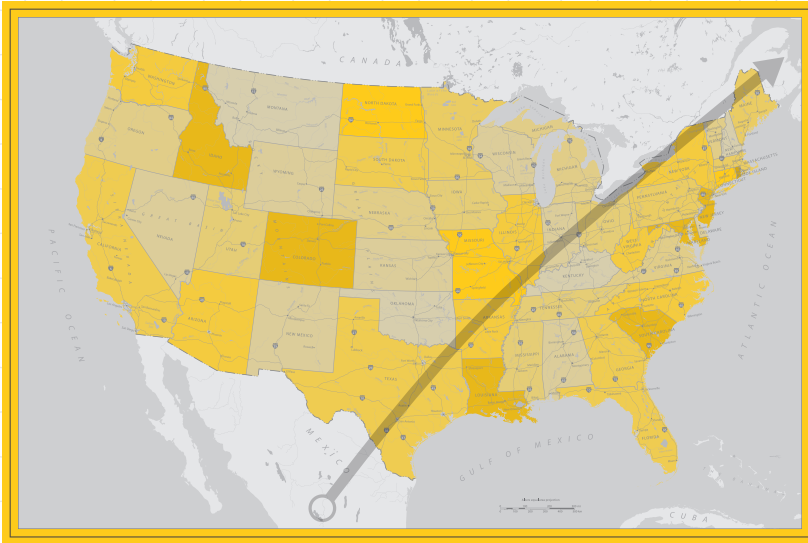


Pinhole viewers are easy to make and can project the Sun's image onto a white piece of paper. Because you can make pinhole viewers with materials from your home, this is an easy and convenient way to watch the total solar eclipse!



Check out <https://science.nasa.gov/eclipses/safety/> for information about making pinhole viewers and more.

United States Trajectory Map



Citizen Science Opportunities

The Citizen Continental-America Telescopic Eclipse (CATE) 2024 project will provide next-generation polarized observations during the 2024 total solar eclipse that crosses the United States from Texas to Maine. Learn how you can contribute images of the eclipse at <https://eclipse.boulder.swri.edu/citizen-cate-2024/>

Take photographs of the eclipse with an approved app and participate in the Eclipse Megamove 2024 project. These images will be used to create a video that shows the eclipse as it passes over the U.S. For more information, visit <https://eclipsemegamovie.org/>

Quick Fact!

Over 31 million people live within the path of totality for the April 8, 2024 total solar eclipse. A partial eclipse will be visible to portions of South, Central, and North America.

Local Area Trajectory Map



Quick Fact!

The next total solar eclipse visible in the United States will be on August 12, 2045.

MISSOURI

Doniphan

Length of totality: 4 min., 2 sec.

Poplar Bluff

Length of totality: 4 min., 9 sec.

Sikeston

Length of totality: 3 min., 34 sec.

Farmington

Length of totality: 2 min., 22 sec.

Cape Girardeau

Length of totality: 4 min., 6 sec.

St. Louis Metro

99.15% partial eclipse

Rolla

98.42% partial eclipse

Columbia

94.41% partial eclipse

ILLINOIS

Carbondale

Length of totality: 4 min., 8 sec.

Mt. Vernon

Length of totality: 3 min., 43 sec.

Centralia

Length of totality: 2 min., 42 sec.

Effingham

Length of totality: 0 min., 26 sec.

Alton

98.49% partial eclipse

Springfield

96.93% partial eclipse

Observation Journal

Use this space to record your eclipse observations.

Sketch the stages of the eclipse, record the time, or just describe what you see, hear, and feel.

Observation Journal

Use your observation notes to sum up your eclipse experiences. Make sure to mention the differences you noticed before and during the eclipse.

Reflection: during the eclipse

How did the temperature feel? Was it hot? Was it cool? _____

What did the sky look like? Was it cloudy? _____

What sounds did you hear? _____

How did your pets behave? _____

Reflection: after the eclipse

Compare what you remember from before the eclipse to what happened during the eclipse. Explain any differences in animal behavior. Describe the difference in temperature. Were you able to see the Sun's corona?



Eclipse Truth or Fiction

Eclipse myths come from many cultures and past civilizations, making it difficult to figure out which are real and which are fiction. Read each myth below and guess which are true and which are false.

A. Navajo teachings suggest that eclipses were times to stay indoors and avoid eating and drinking. This behavior showed respect for the sun and the moon.

B. Ancient Mayans believed that, during an eclipse, a giant serpent ate the sun. They thought that the planet Venus helped the serpent gobble up the Sun.

C. The ancient Egyptians would time their crop harvests to an eclipse. They would first predict the eclipse, gather the priests, and then harvest as the eclipse happened. Afterward, there would be a large festival celebrating their abundant harvest.

D. Babylonians believed an eclipse doomed their king to attack. They would replace him until the eclipse passed, then sacrifice the replacement king before the real king reclaimed the throne.

E. In Hindu legends, people believed that an eclipse occurred when a rabbit ate the sun. This represented fertility, a good sign for the years to come.

Glossary

Annular Eclipse- This type of eclipse occurs if the Moon is at its furthest distance from Earth so that during the event, the Moon appears too small to block the entire Sun. The Sun's bright light remains like a ring circling the Moon.

Corona- During totality, this light, which is approximately as bright as the Moon, can be seen surrounding the Sun. This light is called the Sun's corona, and it is made of ionized metals that can be affected by magnetic fields.

Eclipse- This occurs when one astronomical body passes through the shadow of another.

Partial Eclipse- This is an eclipse which occurs when the Moon's shadow partially covers the Sun.

Penumbra- This portion of the Moon's shadow is where the light from the Sun is only partially blocked. The shadow in this area is lighter and often goes unnoticed when the Moon passes through Earth's orbit. This shadow section causes observers to see a partial eclipse.

Totality- This is a moment during a total solar eclipse when the Moon completely obscures the Sun.

Total Solar Eclipse- This is an event that only occurs when the Moon is a new moon and passes in front of the Sun, completely blocking its light.

Umbra- This is the innermost and darkest part of the Moon's shadow, where the light from the Sun is totally blocked. While standing in this section of the Moon's shadow, you can see a total solar eclipse.

Learn More

Be sure to check out the James S. McDonnell Planetarium's ECLIPSE Star Show for more information about eclipses, and the upcoming total solar eclipse on April 8, 2024.

Other resources include:

SLSC Eclipse Information Hub:

<https://www.slsc.org/eclipseinfo/>

NASA Eclipse Safety:

<https://science.nasa.gov/eclipses/safety/>

Missouri Eclipse Task Force:

<https://moeclipse.org/>

American Astronomical Society Eclipse Information:

<https://eclipse.aas.org/eclipse-america-2024>

More Citizen Science Projects:

<https://science.nasa.gov/eclipses/citizen-science/>

Check out local historical information hubs:

Cahokia Mounds, IL

The Missouri History Museum

The Missouri Botanical Garden

Learn about animal behavior during an eclipse:

Saint Louis Zoo

Lone Elk Park

Shaw Nature Reserve



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