

SOLAR ECLIPSE WORKSHOP

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NASA PARTNER ECLIPSE AMBASSADOR



<http://k12science.net/>

K12SCIENCE

K-12 Science Education

[WELCOME TO SCIENCE!](#)

[SCIENCE PODCASTS](#)

[SCIENCE EXPLOSION](#)

[SCIENCE FRIENDS](#)

[SCIENCE IDEAS](#)

Welcome to Science!

K12Science is hosted by David Bydlowski, science educator in Michigan. You can contact David through [email](#) or on Twitter [@k12science](#).



- Science educator for over 40 years
- Taught science at the middle school, high school and university level
- County science consultant
- Member of Science Explosion
- Co-Investigator on NASA's AREN Project
- Awarded the Michigan Science Teachers Association's "George G. Mallinson Lifetime Achievement Award"

The purpose of **K12Science** is to share [ideas about science teaching](#) in grades K-12 and above.

K12Science provides current information on science education through the [K12Science podcast](#), in a 2-6 minute format. Follow or subscribe through [Apple Podcasts](#), [Libsyn](#), Spotify, Amazon Music, Spotify, or through your favorite downcasting service.

Three
Eclipse
Podcasts
on site:
11-27-23
7-15-23
7-11-23

CASTING LIGHT ON THE GREAT NORTH AMERICAN ECLIPSE OF 2024

CASTING LIGHT ON THE GREAT NORTH AMERICAN ECLIPSE OF 2024

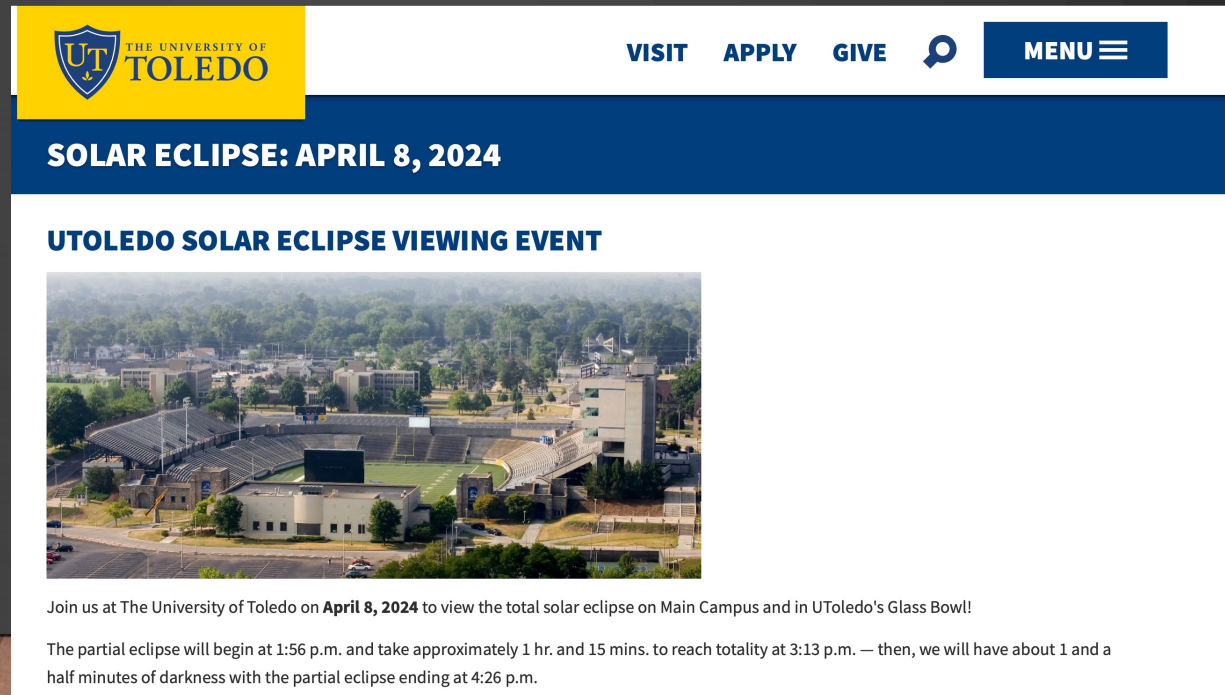
Kurtz K. Miller, Ph.D.
JPL Solar System Ambassador
Wayne High School
Huber Heights, Ohio USA



Workshop Description

Are you and your students ready for the solar eclipse on April 8, 2024? On April 8, 2024, the Moon's dark shadow will pass from Mexico, through the U.S. from Texas to Maine, and then to Canada rather than crossing from coast to coast, but the path of totality will be wider and touch more big cities than in 2017. Toledo, Ohio will be in the path of totality. Detroit will have an Obscuration of 99.3%. It is important to plan well in advance of the solar eclipse, taking advantage of lessons learned from the 2017 event. Each participant will receive a classroom set of solar glasses.

Nearest Totality Event



The screenshot shows the top navigation bar of the University of Toledo website with the logo and links for VISIT, APPLY, GIVE, and MENU. Below the navigation is a blue header with the text "SOLAR ECLIPSE: APRIL 8, 2024". The main content area features the title "UTOLEDO SOLAR ECLIPSE VIEWING EVENT" and an aerial photograph of the university's main campus and stadium. Below the photo, the text reads: "Join us at The University of Toledo on April 8, 2024 to view the total solar eclipse on Main Campus and in UToledo's Glass Bowl! The partial eclipse will begin at 1:56 p.m. and take approximately 1 hr. and 15 mins. to reach totality at 3:13 p.m. — then, we will have about 1 and a half minutes of darkness with the partial eclipse ending at 4:26 p.m."

WORKSHOP DESIGN OVERVIEW

EARTH SCIENCE STANDARDS: THE UNIVERSE AND ITS STARS / EARTH AND THE SOLAR SYSTEM

- 7 E Lesson with Multiple Resources
- Elicit
- Engage
- Explore / Explain (Multiple) -- Earth, Moon, Sun / Eclipse / Kepler's Laws
- Elaborate
- Evaluate – Develop a Classroom Unit
- Extend – Communication Beyond the Classroom

MICHIGAN SCIENCE STANDARDS

- 1-ESS1-1 Use observations of the sun, moon, and stars to describe patterns that can be predicted.
- 1-ESS1-2 Make observations at different times of year to relate the amount of daylight to the time of year. **
- 5-ESS1-1 Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.
- 5-ESS1-2 Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.
- MS-ESS1-1 Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons.
- MS-ESS1-3 Analyze and interpret data to determine scale properties of objects in the solar system.
- HS-ESS1-4 Use mathematical or computational representations to predict the motion of orbiting objects in the solar system.

PHENOMENA

Natural phenomena are observable events that occur in the universe and that we can use our science knowledge to explain or predict. The goal of building knowledge in science is to develop general ideas, based on evidence, that can explain and predict phenomena.



nextgenstorylines.org



Using Phenomena in NGSS-Designed
Lessons and Units

MORE ON PHENOMENA



Don't Kill

THE WONDER

ASSESSMENTS

RESOURCES

PHENOMENA

VIDEOS

<https://thewonderofscience.com>

WHEN THE MOON PASSES IN FRONT OF THE SUN AND BLOCKS IT COMPLETELY, IT CASTS A SHADOW ONTO OUR PLANET TURNING DAYTIME INTO NIGHT.

As you think about the phenomenon of the Solar Eclipse that will occur on April 8, 2024, think about the following:

1. What do you already know about the solar eclipse?
 2. What would you like to know about the solar eclipse?
 3. What is your goal of teaching students about the solar eclipse?
- K-W-L Chart -- **What do you know, What would you like to know, What have you learned**
 - 5-10 minutes – use Sticky Notes and Post them

ENGAGE

Eclipse Videos

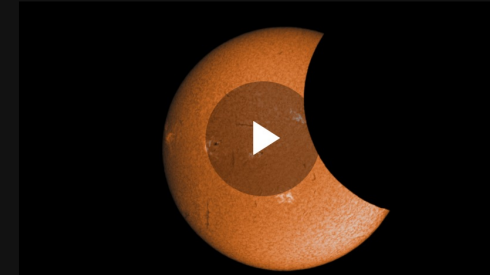
Displaying 1 - 12 of 53



North America- there's a Total Solar Eclipse coming your way o...



Live Coverage of the 2023 Annular Solar Eclipse



Live Telescope View of Annular Eclipse w/Sonification | Valley of...



Experiencing a Total Solar Eclipse



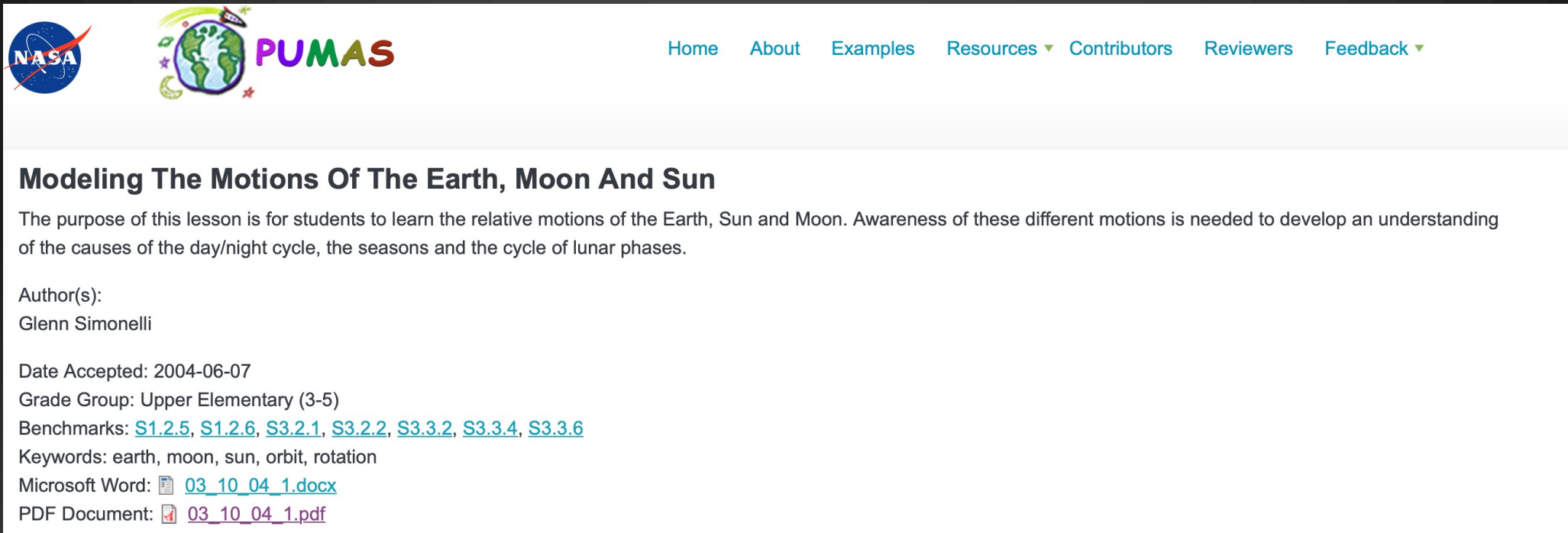
What is the difference between a total, annular, partial and lunar...



A 99% eclipse is not the same as an 100% eclipse

EXPLORE

- Make a model of the Earth, Moon, and Sun. Participants should observe, record data, design and plan, and organize findings.



The screenshot shows the NASA PUMAS website. At the top left is the NASA logo, followed by the PUMAS logo which features a globe with a rocket and stars. To the right is a navigation menu with links: Home, About, Examples, Resources (with a dropdown arrow), Contributors, Reviewers, and Feedback (with a dropdown arrow). Below the navigation is the title 'Modeling The Motions Of The Earth, Moon And Sun' in bold. The main text describes the lesson's purpose: 'The purpose of this lesson is for students to learn the relative motions of the Earth, Sun and Moon. Awareness of these different motions is needed to develop an understanding of the causes of the day/night cycle, the seasons and the cycle of lunar phases.' Below this, it lists the author as Glenn Simonelli, the date accepted as 2004-06-07, and the grade group as Upper Elementary (3-5). It also lists benchmarks: S1.2.5, S1.2.6, S3.2.1, S3.2.2, S3.3.2, S3.3.4, and S3.3.6. Keywords include earth, moon, sun, orbit, and rotation. At the bottom, there are links for a Microsoft Word document (03_10_04_1.docx) and a PDF document (03_10_04_1.pdf).

Modeling The Motions Of The Earth, Moon And Sun

The purpose of this lesson is for students to learn the relative motions of the Earth, Sun and Moon. Awareness of these different motions is needed to develop an understanding of the causes of the day/night cycle, the seasons and the cycle of lunar phases.

Author(s):
Glenn Simonelli

Date Accepted: 2004-06-07
Grade Group: Upper Elementary (3-5)
Benchmarks: [S1.2.5](#), [S1.2.6](#), [S3.2.1](#), [S3.2.2](#), [S3.3.2](#), [S3.3.4](#), [S3.3.6](#)
Keywords: earth, moon, sun, orbit, rotation
Microsoft Word: [03_10_04_1.docx](#)
PDF Document: [03_10_04_1.pdf](#)

EXPLAIN

Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted. (Sun and Moon appear to rise, move across the sky, and set. Stars are visible during night but not during the day except for our Sun.)


Earth orbits the Sun and the moon orbits the earth. Earth rotates on its axis. The causes day/night, shadow length that varies, position of the sun, moon and stars at different times of the day, month and year.

EXPLORE

exploratorium [Download App](#) English

SOLAR ECLIPSE [Home](#) [How to View](#) [Learn More](#) [The Sun and Us](#) [Watch](#) [Activities](#)

Science Snack




Eclipse in a Cup

Try a new tilt on eclipses.

Why doesn't a solar or lunar eclipse happen every month? It's because the moon's orbit around the earth is tilted in relation to the earth's orbit around the Sun. In this Science Snack, you'll make a model that helps explain this phenomenon. *(Note: This model is not to scale.)*

Tools and Materials


- Tennis ball or similarly-sized sphere, such as an orange
- Three clear plastic 9-ounce disposable tumblers/cups made from #1 plastic (Note: Some brands work better than others; wide-mouthed cups work best)
- Two different colors of polymer clay—blue or green to represent the earth, for instance, and gray or white to represent the moon (be sure it's a type of clay that will stick to the plastic cup!)
- Pushpin
- Two different colors of permanent marker (we used red and blue)
- Large, flat table



[Printable Page](#)

Grade Band: [6-8](#) [9-12](#)

<https://www.exploratorium.edu/eclipse/snacks/eclipse-in-a-cup>

National Aeronautics and Space Administration 

STEMonstrations 
Education in Action on the International Space Station

Classroom Connections



Moon Phases

<https://www.nasa.gov/wp-content/uploads/2020/09/stemonstrations-moon-phases-508.pdf>

EXPLAIN

In our entire solar system, the only object that shines with its own light is the Sun. That light always beams onto Earth and Moon from the direction of the Sun, illuminating half of our planet in its orbit and reflecting off the surface of the Moon to create moonlight.

Like Earth, the Moon has a day side and a night side, which change as the Moon rotates. The Sun always illuminates half of the Moon while the other half remains dark, but how much we are able to see of that illuminated half changes as the Moon travels through its orbit.

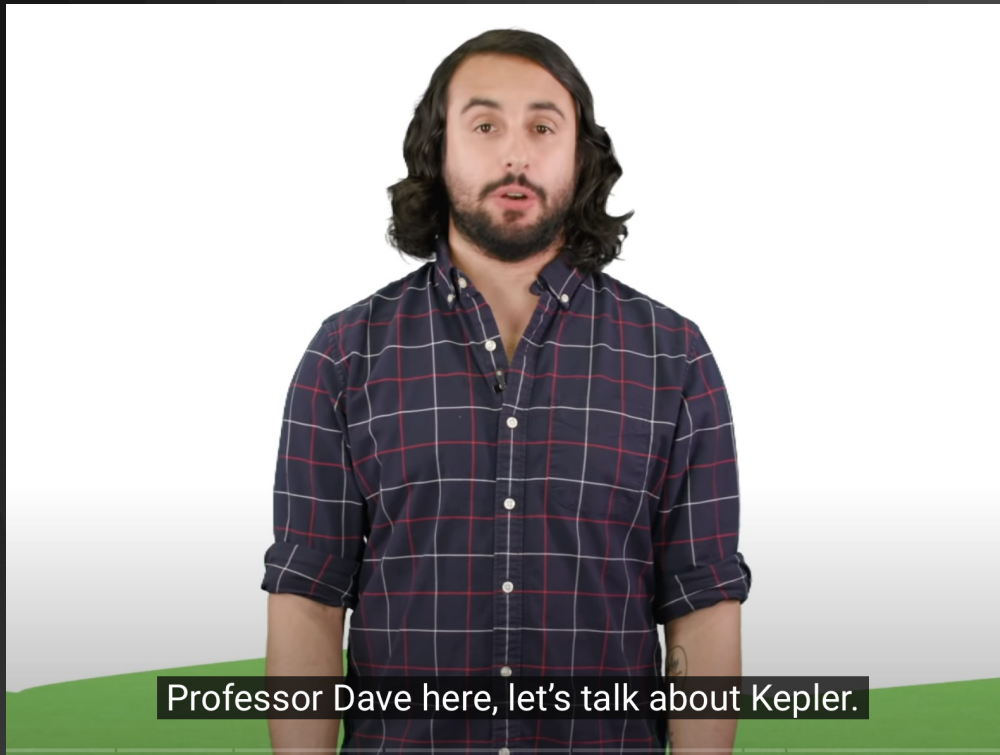
A **solar eclipse** occurs when the Moon passes between the Sun and Earth, casting the Moon's shadow on Earth.

A solar eclipse can only happen during a New Moon.

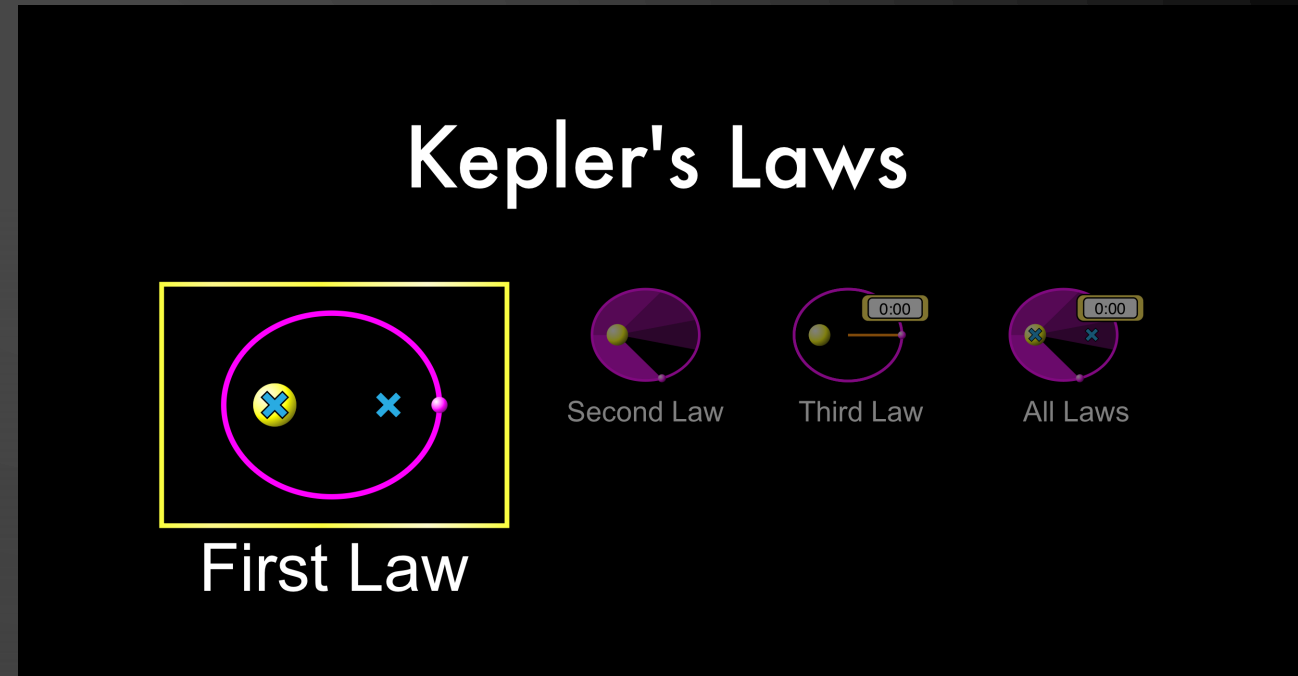
The Moon's orbit is tilted 5 degrees to Earth's orbit around the Sun. Therefore, a solar eclipse is a relatively rare phenomena and a **Total** or **Annular eclipse** even more rare.

EXPLORE

Kepler's Laws -- They describe how (1) planets move in elliptical orbits with the Sun as a focus, (2) a planet covers the same area of space in the same amount of time no matter where it is in its orbit, and (3) a planet's orbital period is proportional to the size of its orbit (its semi-major axis).



Kepler's Laws



The image shows a simulation interface for Kepler's Laws. It features four icons: 'First Law' (a yellow circle with a blue 'x' and a red 'x' representing foci, and a red dot on the circle), 'Second Law' (a purple circle with a yellow dot and a purple sector), 'Third Law' (a purple circle with a yellow dot and a purple arc with a '0:00' timer), and 'All Laws' (a purple circle with a yellow dot and two blue 'x' marks). The 'First Law' icon is highlighted with a yellow border.

<https://www.youtube.com/watch?v=pdst6HOkdrc>

https://phet.colorado.edu/sims/html/keplers-laws/latest/keplers-laws_all.html

EXPLAIN

Kepler's three laws of planetary motion can be described as follows:

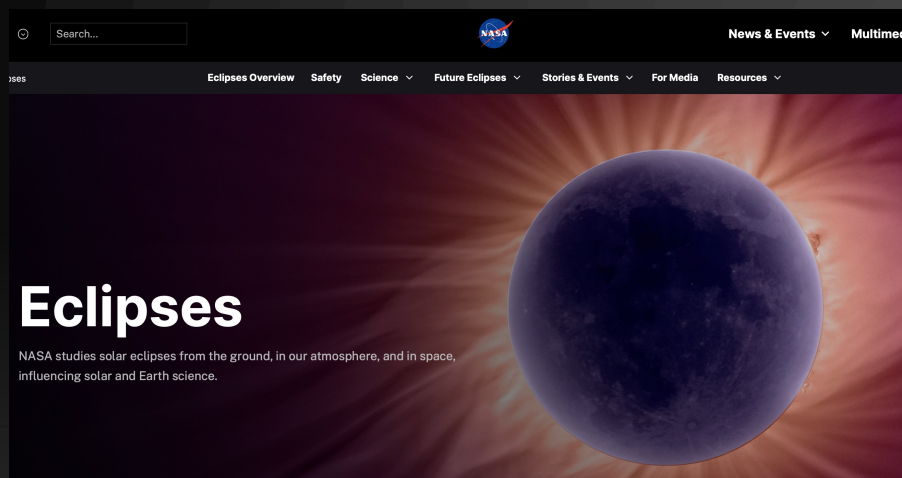
- The path of the planets about the sun is elliptical in shape, with the center of the sun being located at one focus. (The Law of Ellipses)
 - An imaginary line drawn from the center of the sun to the center of the planet will sweep out equal areas in equal intervals of time. (The Law of Equal Areas)
 - The ratio of the squares of the periods of any two planets is equal to the ratio of the cubes of their average distances from the sun. (The Law of Harmonies)
-
- Kepler's laws describe common features of the motions of orbiting objects, including their elliptical paths around the sun. Orbits may change due to the gravitational effects from, or collisions with, other objects in the solar system.

ELABORATE

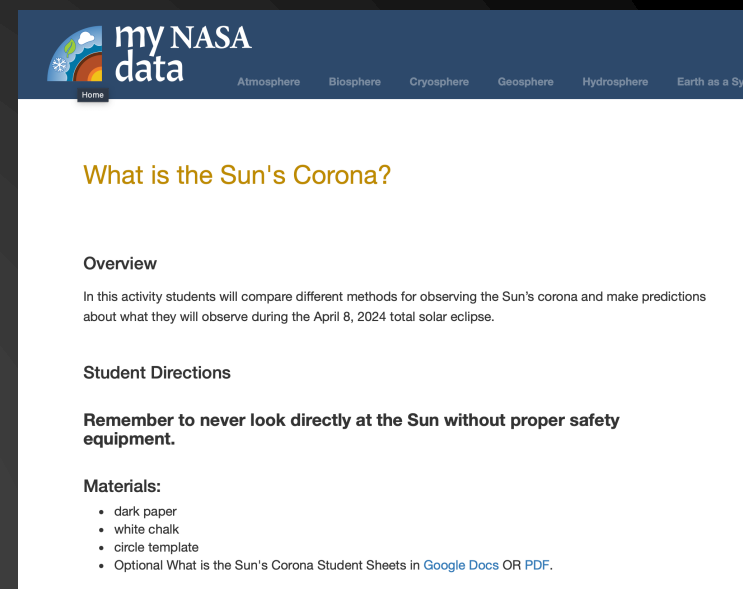
Why does NASA study Eclipses?

Why don't we have an Eclipse every month?

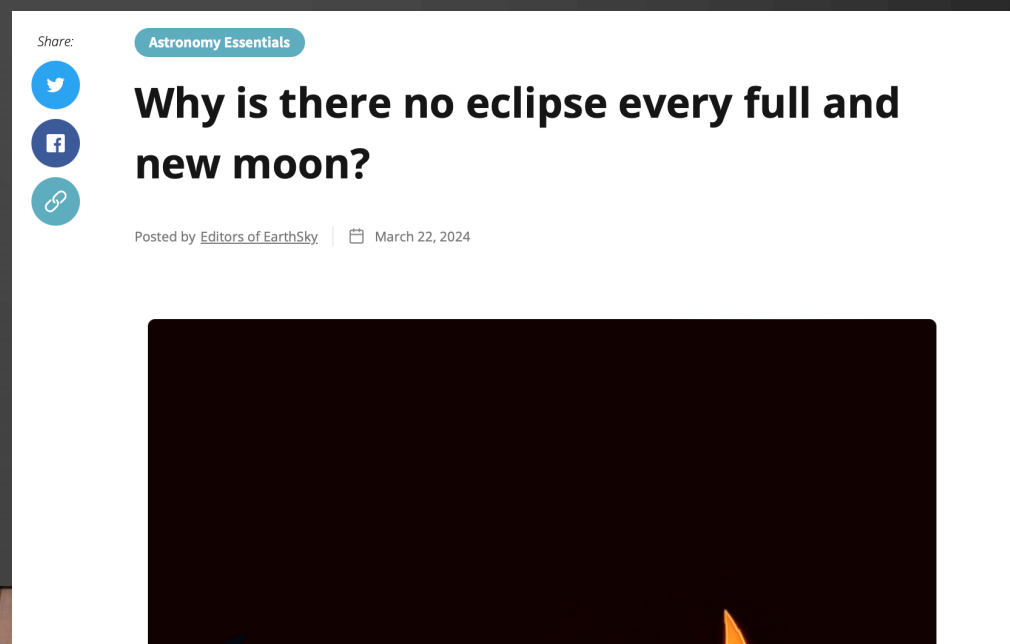
What is the Sun's Corona and how will we observe it?



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

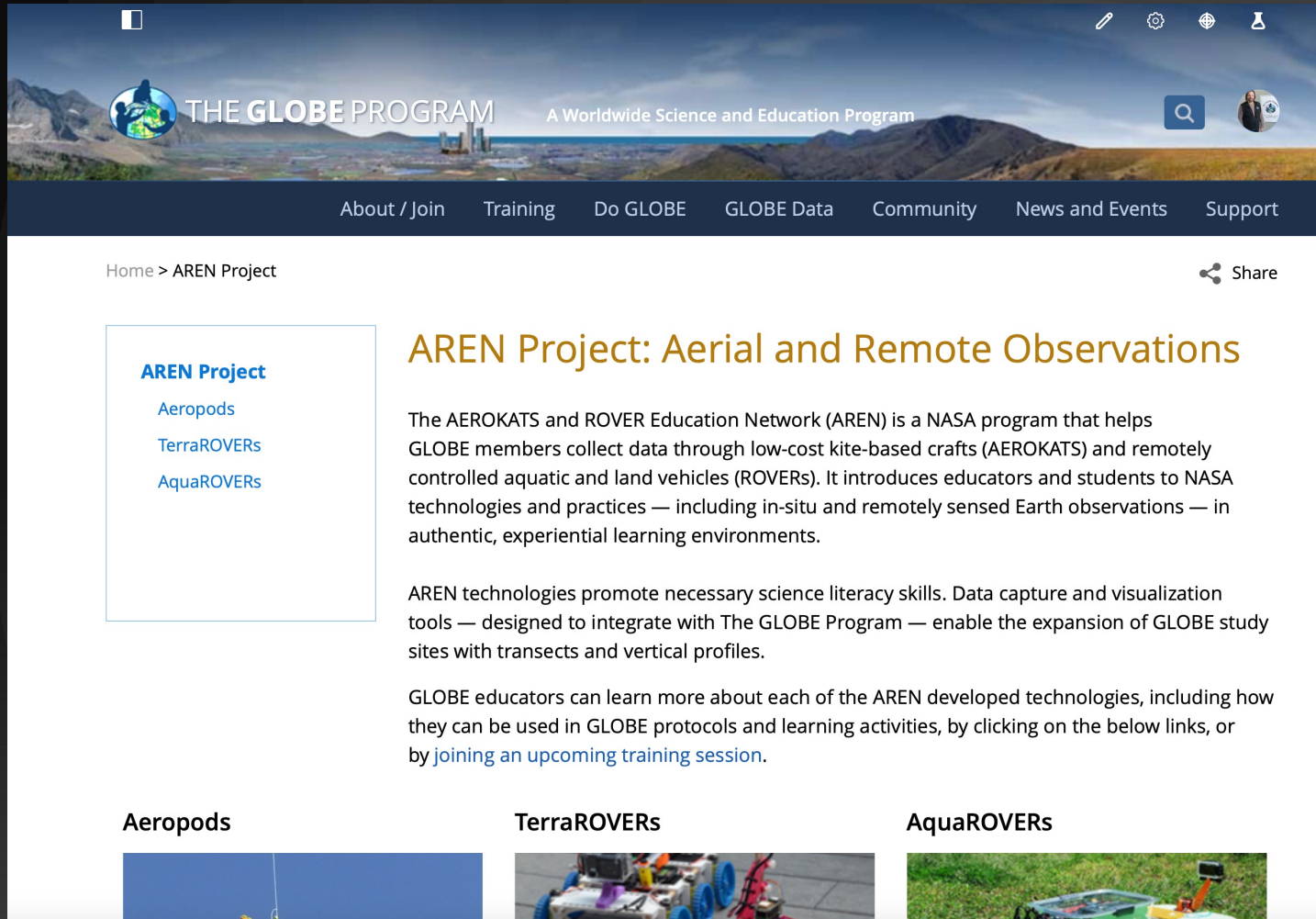


<https://mynasadata.larc.nasa.gov/mini-lessonactivity/what-suns-corona>



<https://earthsky.org/astronomy-essentials/why-isnt-there-an-eclipse-every-full-moon/>

AREN PROJECT – OBSERVING THE SOLAR ECLIPSE



The screenshot shows the GLOBE Program website. The header includes the GLOBE logo and the text "THE GLOBE PROGRAM A Worldwide Science and Education Program". The navigation menu includes "About / Join", "Training", "Do GLOBE", "GLOBE Data", "Community", "News and Events", and "Support". The main content area is titled "AREN Project: Aerial and Remote Observations". It features a sidebar with links to "AREN Project", "Aeropods", "TerraROVERS", and "AquaROVERS". The main text describes the AREN project as a NASA program that helps GLOBE members collect data through low-cost kite-based crafts (AEROKATS) and remotely controlled aquatic and land vehicles (ROVERS). It also mentions that AREN technologies promote necessary science literacy skills and that GLOBE educators can learn more about each of the AREN developed technologies.

Home > AREN Project Share

AREN Project: Aerial and Remote Observations

The AEROKATS and ROVER Education Network (AREN) is a NASA program that helps GLOBE members collect data through low-cost kite-based crafts (AEROKATS) and remotely controlled aquatic and land vehicles (ROVERS). It introduces educators and students to NASA technologies and practices — including in-situ and remotely sensed Earth observations — in authentic, experiential learning environments.

AREN technologies promote necessary science literacy skills. Data capture and visualization tools — designed to integrate with The GLOBE Program — enable the expansion of GLOBE study sites with transects and vertical profiles.

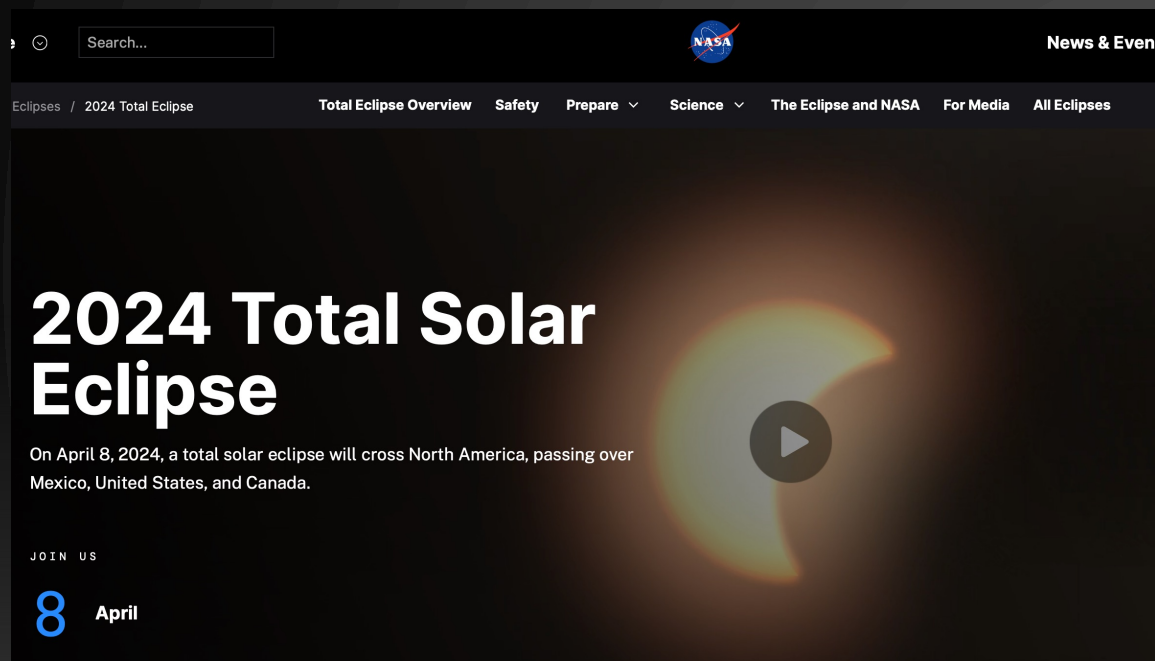
GLOBE educators can learn more about each of the AREN developed technologies, including how they can be used in GLOBE protocols and learning activities, by clicking on the below links, or by [joining an upcoming training session](#).

Aeropods **TerraROVERS** **AquaROVERS**



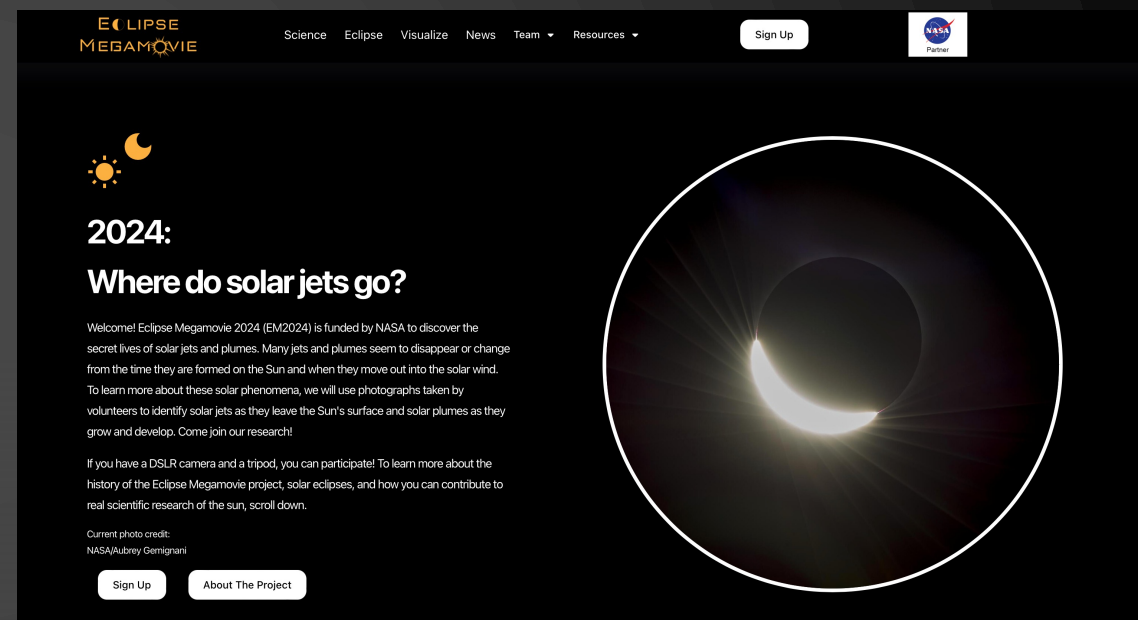
<https://www.globe.gov/web/aren-project/overview>

NASA RESOURCES



The screenshot shows the NASA website's page for the 2024 Total Solar Eclipse. At the top, there is a search bar and the NASA logo. The main heading is "2024 Total Solar Eclipse" in large white text. Below the heading, a sub-heading reads: "On April 8, 2024, a total solar eclipse will cross North America, passing over Mexico, United States, and Canada." To the right of the text is a large, semi-transparent image of a solar eclipse with a play button icon in the center. At the bottom left, there is a "JOIN US" section with a large "8" and the word "April". The navigation menu includes "Total Eclipse Overview", "Safety", "Prepare", "Science", "The Eclipse and NASA", "For Media", and "All Eclipses".

<https://science.nasa.gov/eclipses/future-eclipses/eclipse-2024/>



The screenshot shows the Eclipse Megamovie 2024 website. The header includes the "ECLIPSE MEGAMOVIE" logo, navigation links for "Science", "Eclipse", "Visualize", "News", "Team", and "Resources", a "Sign Up" button, and the NASA logo. The main content area features a large circular image of a solar eclipse. To the left of the image, the text reads: "2024: Where do solar jets go?" followed by a paragraph: "Welcome! Eclipse Megamovie 2024 (EM2024) is funded by NASA to discover the secret lives of solar jets and plumes. Many jets and plumes seem to disappear or change from the time they are formed on the Sun and when they move out into the solar wind. To learn more about these solar phenomena, we will use photographs taken by volunteers to identify solar jets as they leave the Sun's surface and solar plumes as they grow and develop. Come join our research!" Below this is another paragraph: "If you have a DSLR camera and a tripod, you can participate! To learn more about the history of the Eclipse Megamovie project, solar eclipses, and how you can contribute to real scientific research of the sun, scroll down." At the bottom left, there is a "Current photo credit: NASA/Aubrey Gemignani" and two buttons: "Sign Up" and "About The Project".

Citizen Science Opportunity – MegaMovie 2024

<https://eclipsemegamovie.org>

NSTA RESOURCES

NSTA SOLAR ECLIPSE GUIDE FOR EDUCATORS

A Solar Eclipse Double-Header

October 14, 2023 and April 8, 2024

By Dennis Schatz and Andrew Fraknoi

https://static.nsta.org/pdfs/SolarEclipses2023_Educator.pdf

A North American Total Eclipse of the Sun

Monday, April 8, 2024

An Information Sheet by astronomers/educators Dennis Schatz & Andrew Fraknoi

Distributed courtesy of the National Science Teaching Association

https://static.nsta.org/pdfs/SolarEclipses2023_Handouts.pdf



How to safely observe the Sun with young children

By Anna Hurst, Julia Plummer, Suzanne Gurton, and Dennis Schatz

<https://static.nsta.org/pdfs/Science & Children Mar2017 Preparing for the Eclipse How to Safely Observe the Sun with Young Children by Hurst Plummer Gurton and Schatz.pdf>

ADDITIONAL RESOURCES

Eclipse Videos with Time Display

[View from the Sun](#)

[View from the Moon](#)

[View for Toledo](#)

Notes about the Eclipse Videos

Time in UT and location (Lat/ Long) shown in the upper corner

Time flow is 250x

Starting time is shown in file name

For any presentation, please use the following credit

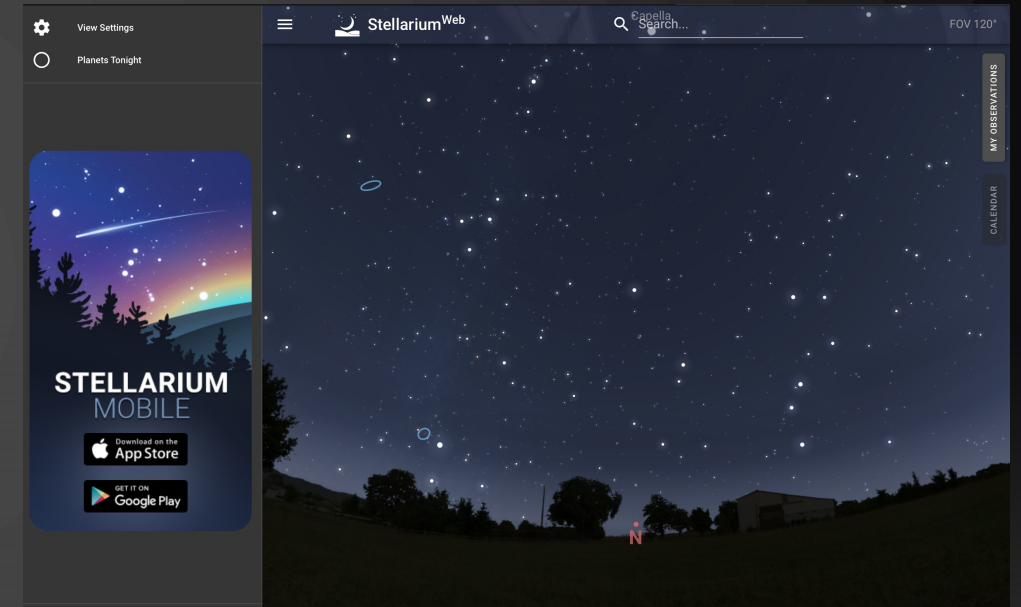
Simulations by Dr. Matt Marone

MARONE_MJ@mercer.edu

Mercer University

Department of Physics

Macon, GA USA



<https://stellarium-web.org/p/observations>

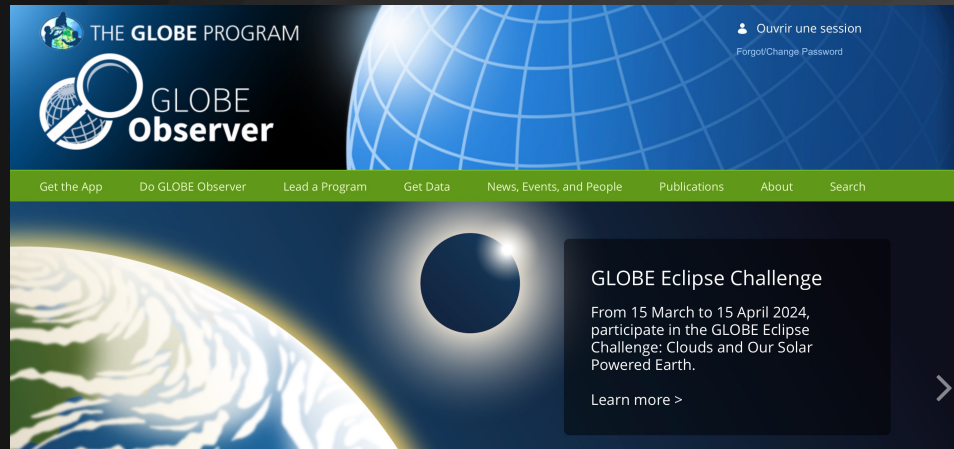
Software used: Starry Night College V8

Simulation Curriculum Corp

<https://livemercer->

my.sharepoint.com/:f/g/personal/marone_mj_mercer_edu/EqZCiSbAFblLkbCne7JID6wBoHDKLTtMckr8IpbUtc4kUw?email=davidbydlowski%40me.com&e=Ac1wfj

GLOBE PROGRAM TRAINING AND GLOBE OBSERVER APP



<https://observer.globe.gov>

Taking Eclipse Observations

The Eclipse tool will next be visible in the app in March, leading up to the 08 April 2024 eclipse.



How should I take observations during the eclipse?

First and foremost, make sure you are being safe when you are observing the eclipse. Looking directly at the Sun 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 (and not at all during the annular eclipse). For more details about how to observe safely, including the appropriate type of eclipse glasses and filters to use, visit the [NASA eclipse safety page](#).

Also, a total solar eclipse is an amazing experience, apart from the interesting science involved. Especially for first-time eclipse observers, we recommend you put down your phone or camera during the precious few minutes of totality itself and just enjoy the experience. The data collection procedures below take that into account, and ask you to make observations and measurements before and after totality, but not during totality itself.

<https://observer.globe.gov/do-globe-observer/eclipse>

3	GLOBE Walailak 2024	Mueang Nakhon Si Thammarat District, Thailand	02/12/2024 - 04/30/2024	Atmosphere Biosphere Hydrosphere	
-	UT Tyler Preservice GLOBE Workshop Spring 2024	Virtual Workshop	02/12/2024 - 04/26/2024	Atmosphere Biosphere Pedosphere (Soil)	United States
4	Train Like a GLOBE Scientist at NIA	Newport News, United States	02/22/2024 - 02/28/2024	Atmosphere Pedosphere (Soil)	Educators that pre-registered
5	Train the Trainer NARM Workshop	San Pedro, CA, United States	02/24/2024 - 02/25/2024	Atmosphere Hydrosphere	Train the Trainer Only
-	Eclipse Workshop / MSTA - Become a GLOBE Educator	Virtual Workshop	02/25/2024 - 04/15/2024	Atmosphere	This Workshop is for participants attending the "Become a GLOBE Educator Workshop" at the Michigan Science Teachers Association Conference in Lansing, Michigan or attended an Eclipse Workshop by David Bydlowski

Become a GLOBE Teacher

<https://www.globe.gov/get-trained/workshops>

ECLIPSE OBSERVATION TOOLS



Pocketlab

https://app.thepocketlab.com/lab-report/3ZsE6Df70008UzW701oKM-?ro=1&ref=%2F&utm_campaign=Notebook%20Weekly%20Lessons%20Updates&utm_medium=email&hsmi=293960886&hsenc=p2ANqtz-9BXDMFLXliqcGAwaBsImaS9B_xqjvmOXjCleA3qwbvhVAqjXoAOiXdZL7o4ju97y6Ll9uWNYp4Yp9deZ



<https://www.planetary.org/video/eclipse-qa-with-bill-nye-do-i-need-special-eclipse-glasses>

CELESTRON Search DEALERS CART

Telescopes Astronomy Sport Optics Microscopes About Us Support EclipseWatch Tools for Beginners

ECLIPSEWATCH

GET EQUIPPED FOR THE TOTAL SOLAR ECLIPSE APRIL 8, 2024

44 DAYS **0** HOURS **48** MINUTES **3** SECONDS

2024 Total Solar Eclipse

Welcome to Celestron's EclipseWatch page! We've created a comprehensive resource page to prepare you for the 2023 and 2024 solar eclipses. Enjoy these guides, articles and videos. And remember, you can stay safe whenever you eclipse watch with Celestron EclipSmart Solar Safe products.

ENTER TO WIN A DREAM TELESCOPE PRIZE PACKAGE **CELESTRON** **ENTER TO WIN**

<https://www.celestron.com/pages/eclipsewatch>

LEGACY OF SOLAR ECLIPSE

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FOLKLIFE TODAY
American Folklife Center & Veterans History
Project

ISSN 2692-1731



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Solar Eclipse: A Moment of Awe, Wonder, and Belief

<https://blogs.loc.gov/folklife/2017/08/solar-eclipse-awe-wonder-and-belief/>

EVALUATE

- Develop a unit that you can use with students to help them understand the Eclipse.

The screenshot displays the PBS Learning Media website interface. At the top, there are navigation elements including the PBS Learning Media logo, a 'FOR TEACHERS' button, and a search bar. Below this is a dark blue navigation bar with 'Subjects', 'Grades', and 'Student site' options. The main content area features a search bar and a large heading: 'Experience a Solar Eclipse | Lesson Plan'. Underneath the heading, it specifies 'Lesson Plan' and 'Grades: 6-8', along with the collection name 'Bringing the Universe to America's Classrooms: Earth and Space Science'. A sidebar on the left offers sharing options like 'Share to Google Classroom', 'Share link with students', 'Build a lesson', 'Social share', and 'Favorite'. The main content is divided into sections: 'Overview', 'Procedure', and 'Standards'. The 'Overview' section contains a paragraph about observing a total solar eclipse and learning about its causes, mentioning NASA resources. A 'Credits' section features the GBH logo. A 'Media in This Lesson' section lists four resources: 'Why Isn't There an Eclipse Every Month? | Interactive Lesson', 'Phases of a Total Solar Eclipse', 'The Moon's Shadow During the 2017 Eclipse', and 'NASA's Eyes on the 2017 Eclipse'. At the bottom, it lists the 'Grade level: 6-8' and the 'Standard: MS.ESS1.B: Earth and the Solar System'.

FOR TEACHERS

Search Sign in Sign up for free!

Subjects ▾ Grades ▾ Student site ↗

Bringing the Universe to America's Classrooms Search Bringing the Universe to ...

Experience a Solar Eclipse | Lesson Plan

Lesson Plan Grades: 6-8
Collection: [Bringing the Universe to America's Classrooms: Earth and Space Science](#)

Share to Google Classroom

Share link with students

Build a lesson

Social share

Favorite

Overview Procedure Standards

Export Print

Explore what it is like to observe a total solar eclipse and learn about what causes eclipses. The lesson features media resources from NASA, including videos, photographs, and multiple models of the Earth-Sun-Moon system.

Credits

Lesson summary

In this lesson, students explore the experience of a total solar eclipse and learn about the mechanics of eclipses. Photographs and videos from the August 21, 2017, total solar eclipse give students a sense of the event. Students also work through an interactive lesson to investigate the orbits and relative positions of the Moon, the Sun, and Earth to understand what causes eclipses and why they are rare.

Grade level: 6-8

Standard: MS.ESS1.B: Earth and the Solar System

Media in This Lesson

- Why Isn't There an Eclipse Every Month? | Interactive Lesson
INTERACTIVE LESSON
- Phases of a Total Solar Eclipse
MEDIA GALLERY
- The Moon's Shadow During the 2017 Eclipse
MEDIA GALLERY
- NASA's Eyes on the 2017 Eclipse
INTERACTIVE

EXTEND

- How will you be able to share your work with your student's parents, administrators, community to make a successful eclipse event.

NEWS

Solar Eclipse 2017

Add Topic +

Solar eclipse fears prompt schools to cancel class, keep kids inside

Greg Toppo USA TODAY

Published 6:39 p.m. ET Aug. 17, 2017 | Updated 10:39 a.m. ET Aug. 18, 2017

Workshop Evaluation

WHEN THE MOON PASSES IN FRONT OF THE SUN AND BLOCKS IT COMPLETELY, IT CASTS A SHADOW ONTO OUR PLANET TURNING DAYTIME INTO NIGHT.

As you think about the phenomenon of the Solar Eclipse that will occur on April 8, 2024, think about the following:

1. What do you already know about the solar eclipse?
 2. What would you like to know about the solar eclipse?
 3. What is your goal of teaching students about the solar eclipse?
- K-W-L Chart -- **What do you know, What would you like to know, What have you learned**
 - 5-10 minutes – use Sticky Notes and Post them

SOLAR ECLIPSE WORKSHOP

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