Solar Eclipse
Choose Your Own Adventure

ASTC October 2023, Charlotte
Saturday, October 7, 2023

1. **Carolyn Ng, NASA - NASA resources, posters, postcards, glasses, more!**
2. **Laura Peticolas, Sonoma State University (N3) - considering neurodiversity**
3. **Anne Holland, Space Science Institute - Easy (and cheap!) hands-on activities**
4. **Jaime Harold, Space Science Institute - Solar science games and visualizations**
5. **Dennis Schatz, NSTA, bringing eclipse experts to your community**
6. **Catherine McCarthy, NISE Network, ASU - museum resources**
7. **Darrell Porcello, NISE Network, Children's Creativity Museum - DIY Sun Science App**

Two Upcoming Solar Eclipses!

Saturday
October 14 2023

Monday
April 8 2024

North American locations not on the path will still experience a partial solar eclipse!

Annular

Credit: NASA/Bill Dunford

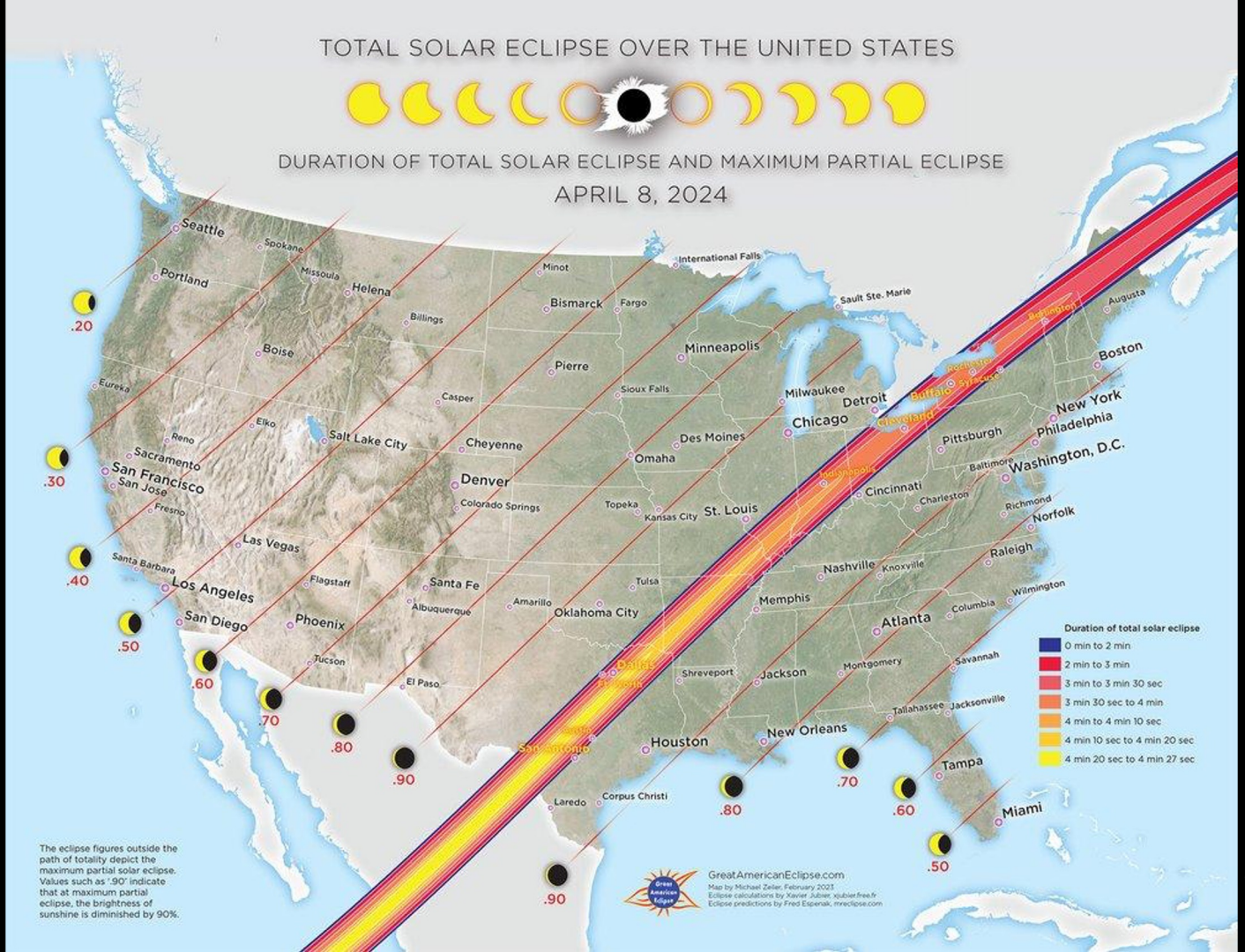
Total

Credit: NASA/MSFC/Joseph Matus

Partial

Credit: NASA/Bill Ingalls

Credit:
Michael Zeiler
GreatAmericanEclipse.com

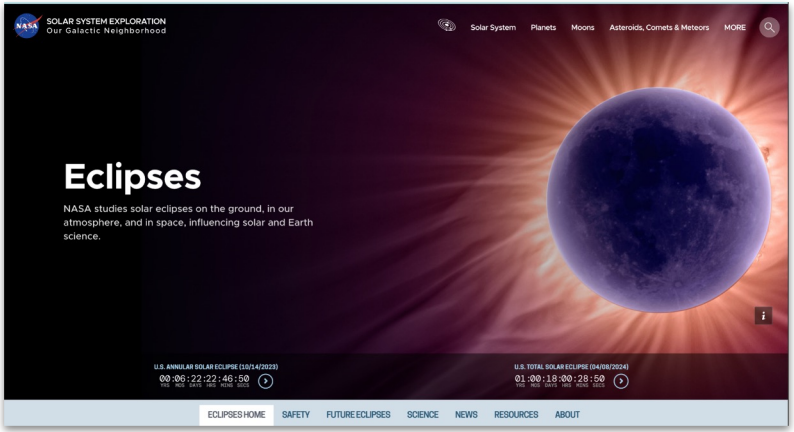


Credit:
Michael Zeiler
GreatAmericanEclipse.com

NASA Resources

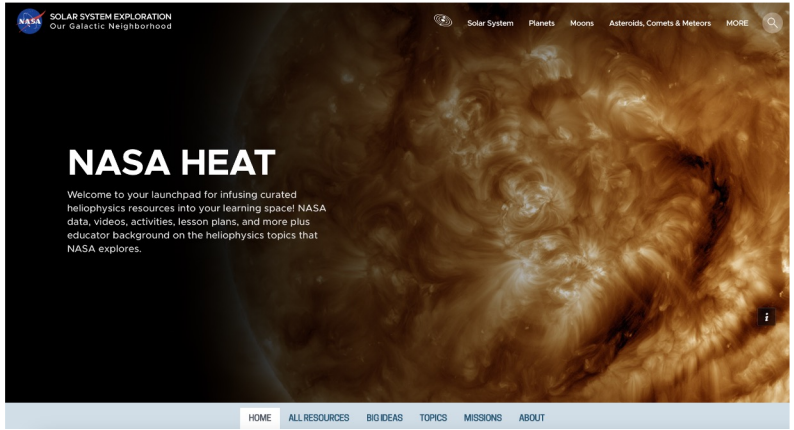
1
Carolyn Ng

NASA Eclipse Website



science.nasa.gov/eclipses

NASA HEAT Website



solarsystem.nasa.gov/HEAT/home
science.nasa.gov/learn/heat/

Find all solar eclipse resources on the NASA Eclipse Website and more heliophysics resources on the NASA HEAT website.

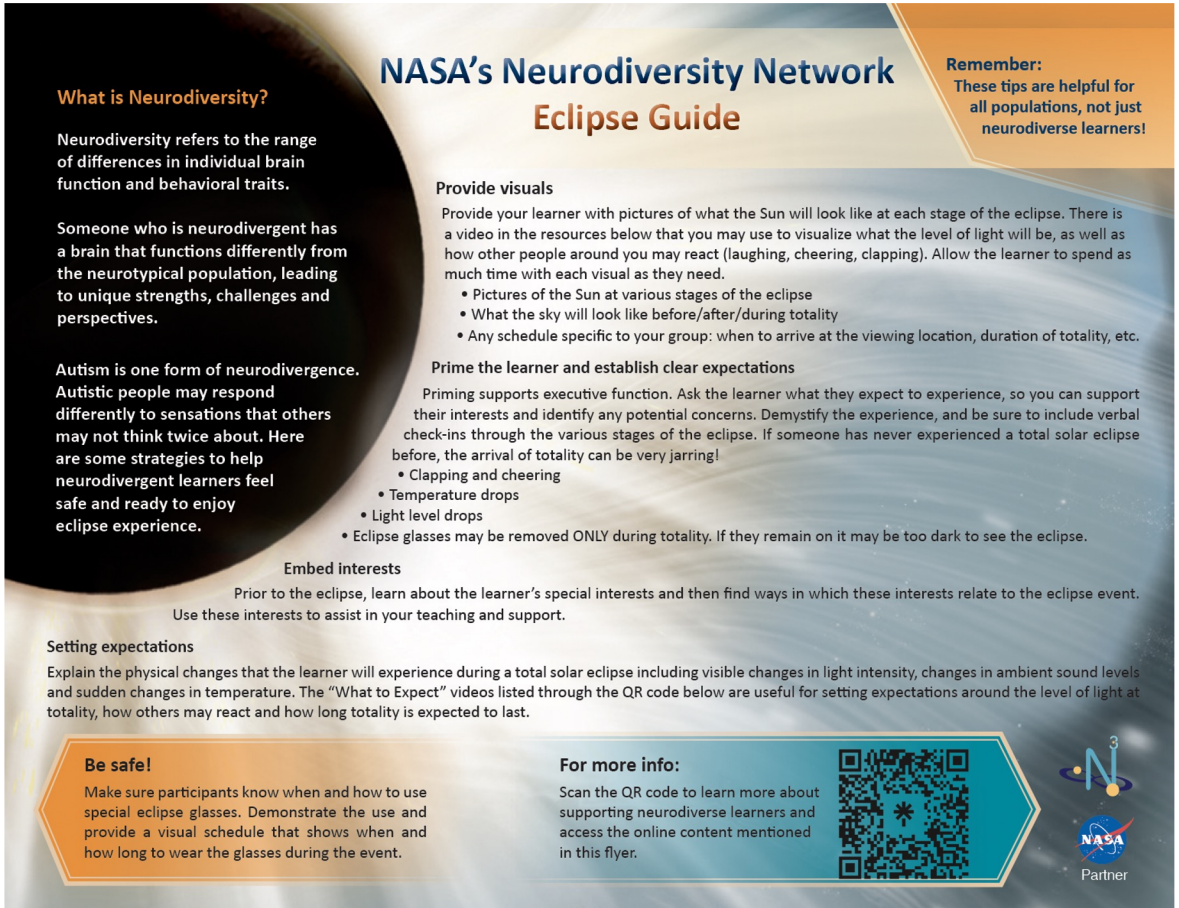
NASA HEAT Sample Resources

Resource	Level	Description	Direct Link
NASA Annular Solar Eclipse Training Slide Deck	Advanced	Designed for educators and community leaders who want to engage audiences in solar eclipse activities and events	https://solarsystem.nasa.gov/resources/2968/
2023 U.S. Map Pinhole Projector	Intermediate, Advanced	2D and 3D print files included, plus an engagement activity about light	https://solarsystem.nasa.gov/resources/2921/
Eclipse Essentials: Safety and Style	All levels	Designed for all ages, make solar viewing fun with decorated solar eclipse glasses!	https://solarsystem.nasa.gov/resources/2983/
My NASA Data Solar Eclipse Phenomena	Intermediate, Advanced	Digital resources that include both educator and student facing activities, including web interactives, that use real data to engage students	https://solarsystem.nasa.gov/resources/2980/
NASA Helio Club	Intermediate	Keep exploring heliophysics beyond the U.S. solar eclipse events with lesson plans and activities for formal and informal educators	https://solarsystem.nasa.gov/resources/2992/

Considering Neurodiversity

2

Laura Peticolas



NASA's Neurodiversity Network
Eclipse Guide

What is Neurodiversity?

Neurodiversity refers to the range of differences in individual brain function and behavioral traits.

Someone who is neurodivergent has a brain that functions differently from the neurotypical population, leading to unique strengths, challenges and perspectives.

Autism is one form of neurodivergence. Autistic people may respond differently to sensations that others may not think twice about. Here are some strategies to help neurodivergent learners feel safe and ready to enjoy eclipse experience.

Remember:
These tips are helpful for all populations, not just neurodiverse learners!

Provide visuals

Provide your learner with pictures of what the Sun will look like at each stage of the eclipse. There is a video in the resources below that you may use to visualize what the level of light will be, as well as how other people around you may react (laughing, cheering, clapping). Allow the learner to spend as much time with each visual as they need.

- Pictures of the Sun at various stages of the eclipse
- What the sky will look like before/after/during totality
- Any schedule specific to your group: when to arrive at the viewing location, duration of totality, etc.

Prime the learner and establish clear expectations

Priming supports executive function. Ask the learner what they expect to experience, so you can support their interests and identify any potential concerns. Demystify the experience, and be sure to include verbal check-ins through the various stages of the eclipse. If someone has never experienced a total solar eclipse before, the arrival of totality can be very jarring!

- Clapping and cheering
- Temperature drops
- Light level drops
- Eclipse glasses may be removed ONLY during totality. If they remain on it may be too dark to see the eclipse.

Embed interests

Prior to the eclipse, learn about the learner's special interests and then find ways in which these interests relate to the eclipse event. Use these interests to assist in your teaching and support.

Setting expectations

Explain the physical changes that the learner will experience during a total solar eclipse including visible changes in light intensity, changes in ambient sound levels and sudden changes in temperature. The "What to Expect" videos listed through the QR code below are useful for setting expectations around the level of light at totality, how others may react and how long totality is expected to last.

Be safe!

Make sure participants know when and how to use special eclipse glasses. Demonstrate the use and provide a visual schedule that shows when and how long to wear the glasses during the event.

For more info:

Scan the QR code to learn more about supporting neurodiverse learners and access the online content mentioned in this flyer.

N3

NASA Partner

- N3 Eclipse Guide
- Providing Visuals
- Priming: What to expect during an eclipse
- Embed Interests
- Set Expectations
- Resources

Easy (and Cheap!) Hands-on Activities
(Alternate Title: what to do if the sun don't shine!!)

3

Anne Holland

Pocket Solar System

★★★★★ *1 Review(s)*

Using a strip of paper, patrons construct a quick scale model of the distances between the objects of our solar system.

Check It Out

How-to Video

Implementation Guide

Content Area
Astronomy and Space

Age Group
Family
Upper Elementary
Tweens (9-12)
Teens
Adults

Time to Complete Activity
20-40 minutes

Cost associated with Activity Materials
$1-$5

Difficulty Level (by content)
Medium

UV Kid

★★★★★ *2 Review(s)*

In this activity, children use common craft materials and ultraviolet (UV)-sensitive beads to construct a person (or dog or imaginary creature).

Check It Out

How-to Video

Content Area
Earth Science
Astronomy and Space
Health Science

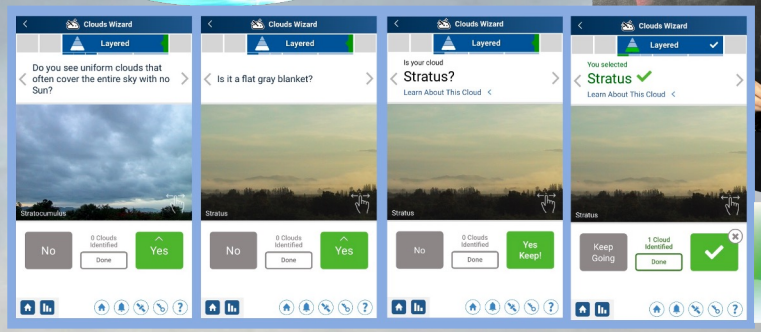
Age Group
Family
Early Elementary
Upper Elementary
Tweens (9-12)

Time to Complete Activity
40 minutes to 1 hour

Cost associated with Activity Materials

STEM ACTIVITY Clearinghouse

clearinghouse.starnetlibraries.org

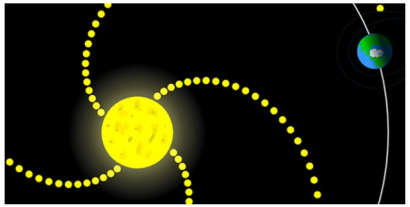


GLOBE clouds

Solar Science Games and Visualizations

4

Jaime Harold



WRATH OF RA

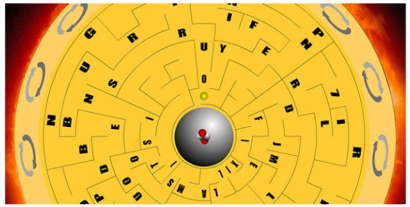
Smack Earth with solar events.

PHYSICS SUN

SOLAR VISION

Look at the Sun in different ways.

TRIVIA SUN

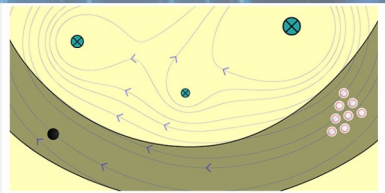


SOLAR MAZE: THE GREAT ESCAPE

Escape from cores of stars.

TRIVIA SUN

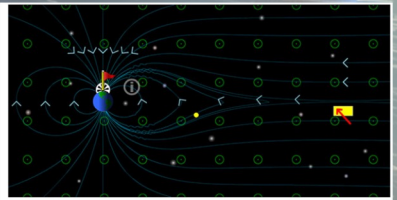
SCI GAMES



MAGNETO BOWLING

Knock down pins with a proton ball.

PHYSICS



MAGNETO MINI GOLF

Play golf with charged particles.

PHYSICS

NSTA Solar Eclipse Resource Website

Solar Eclipse Resource Partners
Solar Observing Guides for Educators and School Administrators
Solar Eclipse Web Seminars – Future and Past Recordings
K-12 Journal Articles with Classroom Learning Experiences
Extensive Collection of Solar Eclipse Related Resources
Links to Other Organizations with Eclipse Related Resources

https://www.nsta.org/eclipse

NISE
NATIONAL INFORMAL STEM EDUCATION NETWORK

Museum Public Engagement Resources

6
Catherine McCarthy

Compilation of solar eclipse public engagement resources:

- Hands-on activities
- Maps and images
- Safe viewing
- Slideshows
- Event planning and more!

nisenet.org/solareclipse

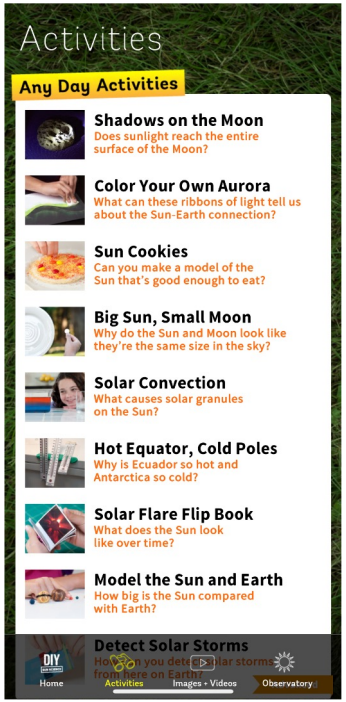
DIY Sun Science App

NISE NATIONAL INFORMAL STEM EDUCATION NETWORK

7
Darrell Porcello

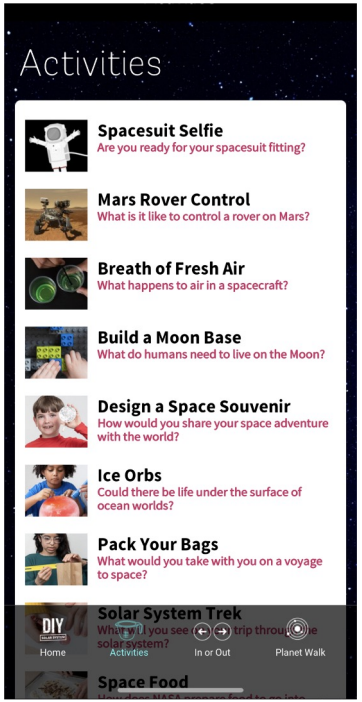
DIY Sun Science

English & Spanish



DIY Solar System

English & Spanish



Both available for iPhones & iPads

Download on the App Store

DIY Sun Science available for Android

GET IT ON Google Play

DIY Solar System for Android Coming Soon!

nisenet.org/diy-solar-system-app | nisenet.org/diy-sun-science-app

More Solar Eclipse at ASTC Conference

- **Flyer about other NASA events at the conference**
- **Session:**
  - **Saturday, October 7, 2023. 2:45 PM – 3:45 PM, Location: E221A**
    A Path Forward WITH Community: Innovative Models for Ambassador Programs in STEAM Focused Institutions
- **Booths:**
  - NISE Network booth #801
  - NASA's Universe of Learning #800
- **Eclipse Happy Hour**
  - hosted by the Simons Foundation on Sunday, October 8, 2023, 5-7pm, room E22
  - https://www.astc.org/total-eclipse/

Acknowledgements

This material is based upon work supported by NASA under award numbers 80NSSC21M0082 (Voyage through the Solar System), 80NSSC23K0947, and cooperative agreement award numbers NNX16AC67A & 80NSSC18M0061 (NISE Network Space and Earth Informal STEM Education), NNX16AE30A (NASA@ My Library), and 80NSSC21M0004 (NASA's Neurodiversity Network (N3). NASA HEAT is part of NASA's Science Activation portfolio.

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the view of the National Aeronautics and Space Administration (NASA).

Gordon and Betty MOORE FOUNDATION

The Gordon and Betty Moore Foundation provided funds to support the Solar Activities for Libraries Project (SEAL) project.

National Science Foundation

The National Science Foundation generously donated 1 million eclipse glasses to supplement the SEAL project.

Tables #s

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