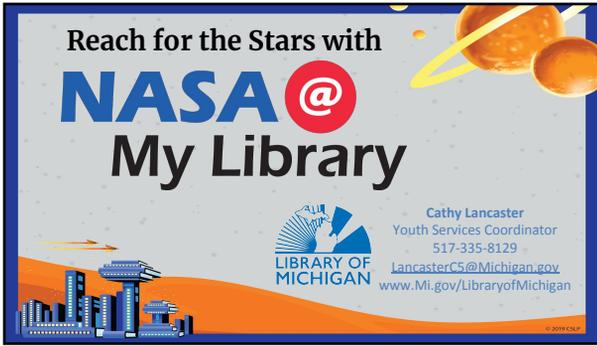


Reach for the Stars with
NASA @
My Library



LIBRARY OF MICHIGAN

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Today's Goals

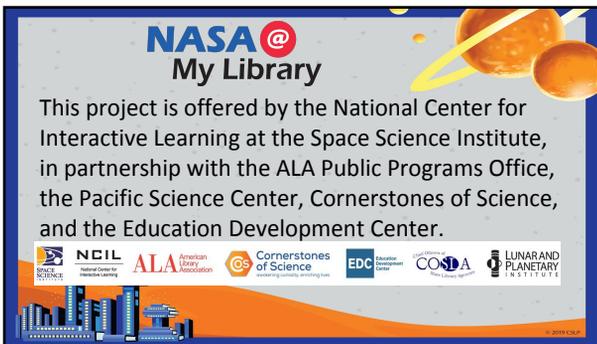
- ★ How N@ML came about & Partner Agencies
- ★ Summer Reading tie-in
- ★ Resources
- ★ Play Time- let's learn about Space!

Slides: <http://bit.ly/MiNASA19>



NASA @
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This project is offered by the National Center for Interactive Learning at the Space Science Institute, in partnership with the ALA Public Programs Office, the Pacific Science Center, Cornerstones of Science, and the Education Development Center.

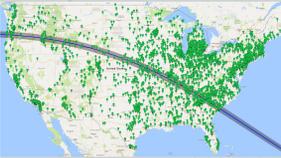









Why NASA @ My Library?



- Solar Eclipse Glasses of 2017!
- Collaboration at ALA
- Why NOT? Space is COOL!
- Eclipse Report & Images:
<https://www.starnetlibraries.org/2017eclipse/>



NASA @ My Library

Public Library Partners



State Library Partners





CSLP is a consortium of states that empowers libraries to foster community. CSLP collaborates with libraries to create an inclusive literacy based program that is enjoyable for all ages, provide a reproducible program with a unified theme, share resources and offer professional support.

- ★ How "A Universe of Stories" came about...
www.CSLPreads.org #LibrariesLiftoff

- ★ Summer of Space materials from STARnet
<http://www.starnetlibraries.org/summer-of-space/>



What's in the Kits?

Sun-Earth-Moon Connections

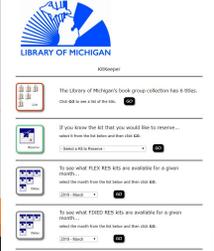
- Modeling Meaningful Eclipses
- UV Kid!
- Sorting Games: How Big? How Far? How Hot?
- Jump to Jupiter

Be a NASA Detective

- Planet Party
- Pocket Solar System
- Art and the Cosmic Connection
- Investigating the Insides
- Taking the Earth's Temperature

"Unpacking" videos now available from Cornerstones of Science for our @ML kits: [Sun-Earth-Moon Connections](#) and [Be a NASA Detective](#). Also available is a short video on [How to Use The Sunscope Telescope](#), that comes in the Detective kit!

Check Out a Kit



- 1) Reserve a kit via [KitKeeper](#)
- 2) Schedule and advertise programs for the public during the period your library has reserved the kit.
- 3) Return kit to the Library of Michigan on time so the next library can receive it for their programming and complete the required **survey**.

Create Your Own Kits

- ★ Download Kit Notebooks
 - [Sun-Earth-Moon Connections](#)
 - [Be a NASA Detective](#)
- ★ At the back of each notebook are links to materials for purchase and download.
- ★ All activities found on [STARnet](#).
 - Some tactile materials currently not available.



Grant Opportunities from LM

Public Library Services Grant

- Small Grant: \$500 - \$2,000 per year
- For a summer program (June – August)
- Can be related to technology, children & teens, or some form of literacy

Look for in Winter 2020

Collaborative Library Services Grant

- Large Grant: \$50,000 - \$500,000 for 1-3 years
- For a collaborative library program with active partners

Improving Access to Information Grant

- Medium Grant: \$5,000-\$25,000 per year
- Increase a library's capacity to
 - offer services & information in areas of literacy
 - offer services & information in areas of local history or special collections
 - improve access to information or community users with limited access

Collaborative & Improving Access Grants both
DUE May 31, 2019, 5:00 PM EST
www.Mi.gov/LSTA for details



N@ML Kits

- ★ Series of individual events
- ★ STEM Open House or Station Programming
- ★ School Engagement
- ★ Summer Reading Outreach

- ★ [Night Sky Network](#): a nationwide coalition of amateur astronomy clubs.
- ★ [Solar System Ambassadors](#): volunteers who share the latest NASA science & discoveries.




NASA @ My Library

Questions/Comments before we PLAY?

Slides: <http://bit.ly/MinASA19>



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Time to Play! (I mean, "Learn!")

- ★ Sorting Games: How Big? How Far? How Hot?
- ★ Modeling Meaningful Eclipses
- ★ Solar System Necklaces, a workshop activity: <http://bit.ly/MiSolarNecklace>
- ★ UV Kid
- ★ Taking the Earth's Temperature
- ★ Telescope Time

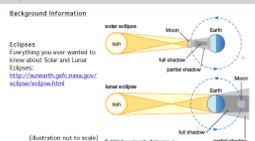


How Big? How Far? How Hot?

- ★ **How Big?**
 - The International Space Station is slightly larger than the length of a football field.
 - Earth and Mars have the same amount of dry land mass but what extra does Earth have? (water)
 - 1 million Earths would fit inside the Sun.
- ★ **How Far?**
 - Eagles can fly very high (about 10,000 feet) though jets can fly higher (about 35,000 feet).
 - Auroras happen in the highest levels of Earth's atmosphere (about 100 miles up)
 - Constellations are made up of stars within our own Milky Way Galaxy. Distances at this scale are measured in light-years, the distance light travels in 1 year (about 6 trillion miles).
- ★ **How Hot?**
 - Comets absorb and reflect solar light, they don't have any light (or heat) source of their own.
 - The Earth's Core is actually hotter than the Sun's surface!
 - Lightning bolts can be up to 5x hotter than the surface of the sun!

Modeling Meaningful Eclipses

- ★ Once you put the model together (30" apart), stand under a bright light source.
- ★ The Challenge: How would you arrange the materials to recreate an eclipse?
- ★ Librarian to use the handout as a guide to open exploration.
- ★ Questions to encourage exploration
 - Show me where the Moon is when it is full...
 - Show me where the Moon is during a lunar eclipse.
 - Where was the shadow of the Earth/Moon?
 - How were you able to make a solar eclipse with the materials?
 - How were you able to make a lunar eclipse?



Solar System Scale Necklaces

- ★ The black beads represent the space in-between planets.
- ★ Questions to encourage exploration:
 - Which two planets have the most space between them?
 - How does the space between planets change as you move further from the sun?

UV Kid

- ★ Ultraviolet radiation comes from our sun, while some UV is necessary, too much can harm humans and living organisms. We must protect ourselves from harmful UV radiation!
- ★ Build your "kid," including a few UV beads. Choose materials with which to cover your "kid."
(cups, aluminum foil, paper)
- ★ Questions to encourage engagement:
 - What color are the beads in the room?
 - What happens when you cover your "kid" and take it outside to the natural light and uncover?
 - What materials might be the best to cover your "kid" to protect them from the UV radiation?

Taking the Earth's Temperature

- ★ Team-up and take your infrared thermometers* to a designated area. One team member should draw the space and then record temperatures on the map.
**Don't forget to take turns and do NOT point the red laser light in anybody's eyes.*
- ★ Questions to encourage engagement:
 - What materials were warmer? (Pavement? Grass?)
 - Any similarities in the temperature readings?
 - Were any of the items warmer or cooler than you thought they would be?

Telescope Time

- ★ Team-up and "hug" a telescope and take it to a place to view. Play with the scopes. Do you notice that things are upside down? What can you see in detail? Does adjusting it make things blurry?
- ★ Many planets in our solar system are easy to see in the night sky.
 - Venus often looks like the moon
 - Jupiter has faint bands of different colors and "the Giant Red Spot."
 - Saturn's rings are easily seen
 - Mars has a reddish appearance due to its rusty soil.
- ★ Determine an appropriate date/time for an event, but always have a back-up plan!
- ★ Statements to encourage engagement:
 - The Sun is the only star in our solar system, the others we see at night are much more distant than even Pluto.
 - Planets don't make their own light, they are reflecting the sunlight.
 - Venus is the brightest planet because it is close to us, and so it seems larger than Jupiter.

