



EXPLORE SCIENCE
**Voyage through
the Solar System**

Summary of
Voyage through the Solar System
NISE Network Partner Implementation

Revised December 2024

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Background and Introduction

This report summarizes the self-reported data from participating organizations who received the Explore Science: Voyage through the Solar System physical kits awarded and shipped to 350 locations throughout the United States.

Kit background

In collaboration with NASA, the National Informal STEM Education Network (NISE Network) assembled a new set of activities and professional resources focused on NASA's continuing pursuit of human exploration of the Moon, Mars, and beyond. These materials were designed to help NISE Network partners connect participants to solar system discoveries, imagine possible space futures, and consider the ways that human needs and values intersect with space exploration. The kit included hands-on activities and professional development materials to help staff and volunteers engage learners of different ages and backgrounds. All public facing materials are available in both English and Spanish (list of resources included in the physical kit appears below).

For those not receiving the physical kit, digital downloads of activity guides, training resources, event planning and promotional materials, and more are available:

<https://www.nisenet.org/solarsystem-kit>

Voyage through the Solar System Physical Kit Contents

Physical kit contents were designed to be used in informal learning settings, with distribution to 350 NISE Network partners across the United States. Informal learning settings primarily included children's museums and science centers, where resources were used by staff and volunteers to engage family audiences.

- **Planning & Promotional Materials**
 - These professional resources include a welcome letter, kit contents list, logos, promotional photos, event planning resources, best practices for working with STEM experts, and a collection of training resources for activity facilitators.



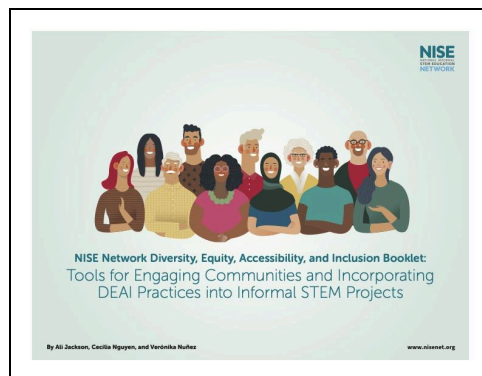
- Working with STEM Experts: A Guide for Educators in Museums and Other Informal Learning Settings

<https://www.nisenet.org/Working-with-experts>



- Diversity, Equity, Accessibility, and Inclusion (DEAI) Booklet

<https://www.nisenet.org/DEAI-tools>



- **Training Materials**

- Training materials included in the kit included facilitator guides for each activity, partnership and collaboration resources, and training videos.



- **Hands-on STEM Activities**

- **Voyage through the Solar System: Build a Moon Base Camp**

How will you share your space adventure with the world? When we arrive on the Moon to stay, what will we need to survive and thrive? In this activity, learners use familiar building blocks and are prompted to build a base for humans to live and work on the Moon. Included with the activity are



stickers to add to select blocks with icons that represent items necessary to survive and thrive, and challenge cards giving participants situations humans will likely face while staying on the Moon.

<https://www.nisenet.org/catalog/build-moon-base-camp>

- **Voyage through the Solar System:
Breath of Fresh Air**

In this activity, learners explore the technology and processes that will be necessary in order to create a breathable atmosphere for life on a Moon base, while also talking about the current processes being used on the International Space Station.

Learners will do an experiment that demonstrates some of the science concepts involved in this process.

<https://www.nisenet.org/catalog/breath-fresh-air>



- **Voyage through the Solar System:
Space Souvenir**

In this activity, learners explore medallions from past Apollo Moon missions, considering their importance and the history of the Apollo program as well as upcoming Artemis missions. They also get to make their own mission medallion with foil and cardboard, then design it using a wooden stylus.

<https://www.nisenet.org/catalog/space-souvenir>



- **Accessible Tactile Books**

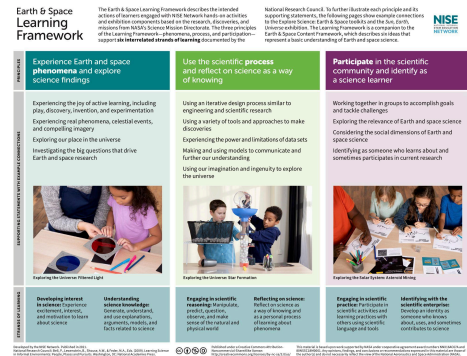
- *Touch the Earth* tactile book
- *Tactile Light Pollution* tactile book
- *Tactile Solar Eclipse* tactile book
- *Tactile Guide to the Solar System* tactile book



- **Earth & Space Learning and Content Frameworks**

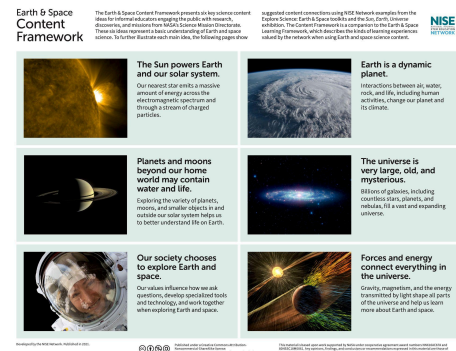
- The **Earth & Space Learning Framework**

describes the intended actions of learners engaged with NISE Network hands-on activities and exhibition components based on the research, discoveries, and missions from NASA's Science Mission Directorate. The three principles of the Learning Framework—phenomena, process, and participation—support six interrelated strands of learning documented by the National Research Council.



- The **Earth & Space Content Framework**

presents six key science content ideas for informal educators engaging the public with research, discoveries, and missions from NASA's Science Mission Directorate. These six ideas represent a basic understanding of Earth and space science.



<https://www.nisenet.org/earth-space-frameworks>

- The **Earth & Space Product Matrix**

shows the alignment of NISE Network resources to the three principles of the Earth & Space Learning Framework as well as the six key science content ideas of the Earth & Space Content Framework, and includes the year each was created and distributed. Both frameworks show suggested connections using NISE Network activities and exhibits.

The Earth & Space Product Matrix is a complex table with 10 columns representing different NISE Network resources (e.g., 'The Sun', 'Planets', 'Space Exploration', 'Earth's Dynamic Planet', 'The Universe', 'Forces and Energy') and 10 rows representing different learning framework components (e.g., 'Experience Earth and space phenomena', 'Use the scientific process', 'Participate in the scientific community'). The table uses a color-coded system (green, yellow, orange, red) to indicate the level of alignment between the resources and the framework components. A legend at the bottom explains the color coding.

<https://www.nisenet.org/earth-space-frameworks>

- **DIY Sun Science App - Companion App with Hands-on Activities**

- While originally released in 2016, the app underwent a major update in 2022 that added new activities and a complete Spanish translation.
- DIY Sun Science includes 15 easy-to-use hands-on activities to learn about the Sun and its important relationship with Earth. Learn how to cook in a solar oven, measure the size of the Sun, or explore shadows in model Moon craters! Each activity includes step-by-step instructions that have been tested by educators, kids, and families. Activity materials are easily available and inexpensive.
- Use DIY Sun Science to view live images of the Sun from NASA's SDO satellite in the Sun Observatory. Afterwards, you can learn more about the solar activity you observed and test your new knowledge.
- See awe-inspiring images of the Sun from NASA's Earth and space observatories! Learn about the different features of the Sun and how scientists are studying it. You can even watch NASA videos of the Sun from the past 48 hours.



- **DIY Solar System App - Companion App with Hands-on Activities**

- DIY Solar System is available for iPhones/iPads and Android devices, in both English and Spanish.
- DIY Solar System includes 11 easy-to-use activities to learn about space travel, living in space, and the unique objects that make up the planetary system we call home.



Design a Moon base, grow your own space garden, or experience what it is like to control a rover on Mars! Each activity includes step-by-step instructions that have been tested by educators, kids, and families. Activity materials are easily available and inexpensive—you may already have many of them in your home!

- Augmented Reality (AR) Planet Walk: Don't have the time to travel several billion miles to reach Neptune? Try dropping a scale version of the solar

system outside your home to start a walk that will show you planets, dwarf planets, and asteroids. At each stop, examine the space object up close using real images from NASA. Don't forget to take a space selfie with your favorite planet!

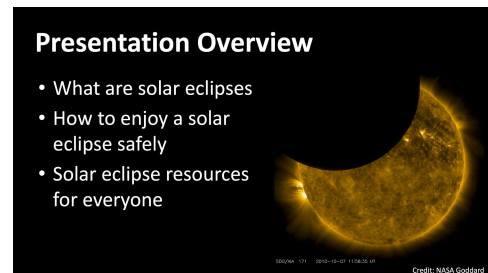
- In or Out Game: Quickly scan awe-inspiring images of space objects from NASA's Earth and space observatories to decide if the objects are in or out of the solar system. While the solar system is vast, it only represents a tiny corner of the universe. After you have mastered your solar system knowledge, challenge yourself to a new round of objects in or out of our home galaxy, the Milky Way.

- **Supporting resources for the 2023 Annular Solar Eclipse 2023 and 2024 Total Solar Eclipse public engagement resources**

Kit recipients were additionally encouraged to utilize the compilation solar eclipse resources developed by NISE Network, NASA, and other sources curated for NISE Network partners available online:

<https://www.nisenet.org/solareclipse>

- Several safe solar viewing glasses/viewers were included in each kit
- NISE Network hands-on eclipse activities were available online
- Editable "Preparing for a Solar Eclipse" Slide Presentation - Updated for 2023 & 2024 was available online



- **Supporting resources from the Explore Science: Earth and Space toolkits (2017-2020)**

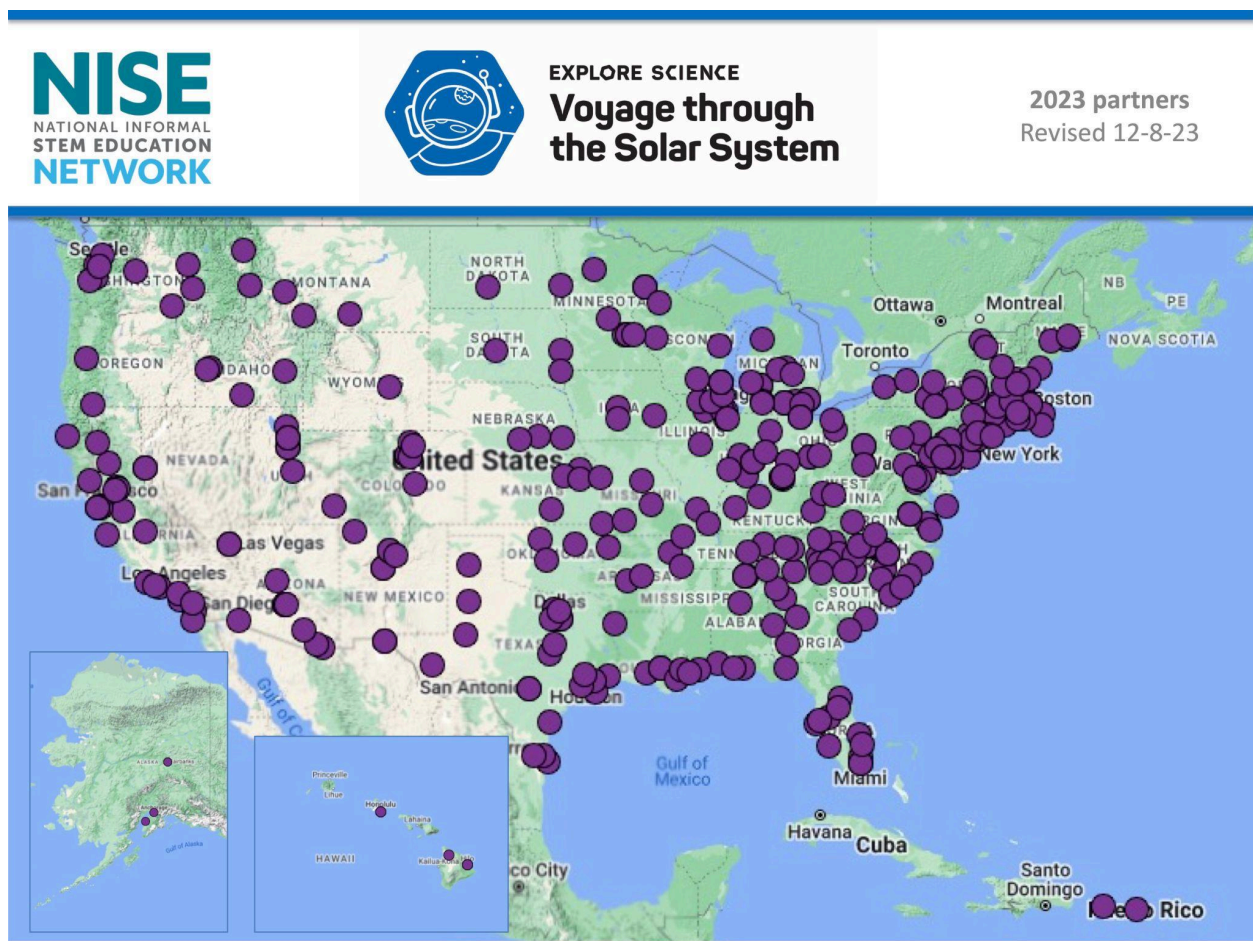
- Kit recipients were encouraged to utilize the Explore Science: Earth and Space digital toolkits distributed in 2017, 2018, 2019, and 2020
<https://www.nisenet.org/earthspacekit>
as well as the Moon Adventure Game distributed in 2020
<https://www.nisenet.org/moongame>



Kit Application and Award Process

Physical kits were awarded through a competitive application process. All applicants had a period of several months to apply, with applications due May 15, 2023. An application overview with instructions, eligibility requirements, and project expectations was included, along with a preview of the online application form. Please see Appendix 2 for the overview and Appendix 3 for the application.

Figure 1
Map of Voyage through the Solar System physical kit recipients in 2023



A complete list of recipients is available online and also in Appendix 1.

<https://www.nisenet.org/voyage-through-solar-system-kit-recipients>

Kit Development, Fabrication, and Distribution Process

Kit contents were developed by a multi-institution team led by the Sciencenter in Ithaca, NY. NISE Network educational materials are created through an iterative, collaborative process that involves scientists with expertise in the content area, professionals in the field of informal science education, and evaluation with targeted public audiences. This process helps to ensure that our programs, exhibits, and other products are



scientifically accurate, represent best practices in educational product development, and are safe, effective experiences for learners of all ages. More detailed information about the development process is available here:

https://nisenet.org/development_process-more

Kits were fabricated and then distributed to the 350 eligible NISE Network partners whose applications successfully complied with the project requirements, reached local underserved audiences, and helped the project achieve geographic diversity. The Explore Science: Voyage through the Solar System physical kits were shipped out during the first two weeks of August 2023 in time for the October 2023 annular eclipse.

Digital materials were also made available at: <https://www.nisenet.org/solarsystem-kit>

Kit Reporting Process

All kit recipients were required to submit a report via an online reporting form describing and categorizing their use of the kit, public engagement efforts in 2023, and plans for 2024. Reports were typically filled out by museum educators involved in the implementation of kit activities. The report questions are included in Appendix 4.

Kit Report Findings

This summary is based on the data included in the 350 successful applications, as well as 317 reports submitted by NISE Network partners receiving the physical kit.

Museum Attendance, and Demographics and Plans

Kit recipients were asked in the application how many visitors their organization estimated to reach annually on-site at their facility and off-site. Data sources used included ticket sales, gate entrance, program registration, visitor logs, and staff estimates. This data is for in-person interactions with the public (and does not include things like online social media or video views).

Figure 2. Museum Annual Attendance	
Overall annual attendance from Application n=350; data from application	
Annual On-Site Attendance	Annual Off-Site Attendance
44,196,348	5,680,422

Museum Size, Budget, and Geographic Setting

Figure 3. Organization Type n=350; data from application	
museum / science center / informal science education organization	318
college/ university	16
other	16
Museum Type (respondents could choose multiple responses)	
science or technology museum / science center	59%
children's museum	52%

art or history museum	14%
natural history museum or nature center	19%
emerging or developing museum	5%
planetarium	32%
observatory	12%
NASA Visitor Center	7%
other	3%

Figure 4.
Museum Annual Operating Budget

n=350; data from application

under \$250,000	23%
\$250,000 - \$500,000	14%
\$500,000 - \$1 million	17%
\$1 - \$2.5 million	20%
\$2.5 - \$6.5 million	15%
over \$6.5 million	11%
Total	100%

Figure 5.
Museum Geographic Setting

n=350; data from application

rural	13%
suburban	11%
urban - small city (<100,000)	29%
urban - mid-sized city (100,000 - 250,000)	21%
urban - large city (>250,000)	26%
Total	100%

Figure 6. Plans for integrating Kit Resources into Current Programming n=350; data from application	
ongoing programming at our facility	88%
collaborations with local youth service organizations (4-H, Boys & Girls Clubs of America, Boy Scouts of America, Girl Scouts, Girls Inc., PTA, the Y, YWCA, etc.)	55%
family science nights	58%
afterschool programming	41%
special one-time events	67%
community events	75%
camps (e.g. summer camp, holiday camp, day camp)	70%
library outreach	38%
K-12 school outreach	62%
home school programs	46%
adult-only events	19%
celestial events (such as star gazing, meteor showers, moon viewing, etc.)	50%
other	12%

“Other” open-ended responses included:

2023 and 2024 solar eclipse, off-site events and programming, annual large-scale events / festivals, school field trips on-site, teacher workshops, college classes (e.g. training students in museum outreach), lending kit/trunk programs for educators, nature based preschool, mobile van outreach, cooperative events with other local agencies, telescope events, rocket launch events, birthday parties, integrate into our tactile space (specifically for low vision, but accessible for all), lab and maker space programs, and online video and social media,

Figure 7. Plans to Reach Underserved Audiences with Events n=350; data from application	
racial and ethnic minorities / communities of color	90%
American Indian / Alaska Native	37%
girls	90%
low-income / lower socio-economic status	98%
Spanish-speaking audiences	64%
other non-native English speakers	44%
disabled / differently abled	72%
rural	61%
inner city	45%
at-risk youth	61%
other underserved audiences	12%

“Other underserved audiences” open-ended responses included: juvenile detention facility, children of incarcerated fathers, LGBTQIA+, neuroatypical/ neurodivergent, sensory sensitivities, kinship caregivers and non-traditional families, grandparents as caregivers, foster families, Title I Schools, military families, military homeschooled families, homeschool communities, elderly / seniors, undocumented migrants, refugee families, recovering addicts, Appalachians, Amish, and Burmese communities.

Frequency of Public Engagement in 2023

Kit recipients were asked about their use of any NISE Network Earth & Space kits during 2023, considering both format or venue and frequency of use. Recipients were asked to base their response on the use of any of the following NISE Network materials:

- 2023 Voyage through the Solar System kit <https://www.nisenet.org/solarsystem-kit>
- 2017, 2018, 2019, and 2020 Explore Science: Earth & Space kits <https://www.nisenet.org/earthspacekit>
- 2020 Moon Adventure Game <https://nisenet.org/moongame>

Figure 8.
Frequency of Use
of NISE Network Earth and space science kit content during 2023
(n ranged from 295-313)

	brief activities	longer programs	K-12 school outreach	After-school	special events	camp	local youth outreach	library outreach	home school	adult-only events	lesson activities within college courses	longer term display	celestial events
Daily	4%	2%	1%	0%	0%	1%	0%	0%	0%	0%	0%	11%	0%
Several times a week	10%	4%	5%	2%	1%	2%	1%	1%	0%	0%	0%	1%	1%
Once a Week	8%	4%	6%	3%	2%	3%	0%	0%	0%	0%	0%	3%	0%
Once a Month	12%	9%	13%	8%	10%	2%	6%	3%	5%	2%	0%	2%	3%
Several times a Year	5%	9%	10%	8%	5%	6%	11%	12%	13%	15%	12%	13%	9%
Once a Year	7%	8%	9%	6%	17%	16%	14%	15%	9%	9%	3%	6%	31%
Not sure	5%	9%	10%	8%	5%	6%	11%	12%	13%	15%	12%	13%	9%
Not applicable	14%	34%	19%	52%	9%	25%	39%	48%	45%	62%	77%	52%	25%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

The complete descriptive text for each of the categories abbreviated above for respondents to select from:

- cart demonstrations / brief table top activities
- longer museum programs (e.g. forums, classes, labs, science club)
- K-12 school outreach (e.g. classes, field trips, science fair)
- afterschool programming
- special events (e.g. space events, Earth science events, family nights, festivals)
- camps (e.g. summer camp, holiday camp, day camp)
- local youth service organizations outreach
- library outreach
- home school programs
- adult-only events
- lesson activities within college courses
- longer term display of materials in public spaces (e.g. within exhibits, on the museum floor, on a table)celestial events (e.g. star gazing, meteor showers, moon viewing, eclipses, etc.)

Overall Reach

Kits had broad and diverse reach nationwide engaging the public in all 50 US states, Washington DC, Puerto Rico, and US Virgin Islands. We estimate that public audiences have had approximately 1.26 million encounters with NISE Network Earth & Space kits over the last year, with a focus on the Voyage through the Solar System kit. Building on past NISE Network counting studies that established how many encounters are likely to occur for any given engagement format, we used organizations kit report responses describing frequency of use. For partners that did not complete a kit report, we estimated “typical” usage from organizations with similar attendance patterns. Based on past NISE Network counting studies, we have estimated the overall reach for the Voyage through the Solar System kit based on the number of encounters with the public.

Figure 9. Overall Reach Estimate n=350; data from application	
Public	2,447,000

DIY Sun Science and DIY Solar System Apps

Kit recipients were asked about awareness and use of the DIY Solar System app and DIY Sun Science app, which are available for iPhones/iPads and Android devices, in both English and Spanish.

- DIY Sun Science app <https://nisenet.org/diy-sun-science-app>
- DIY Solar System app <https://nisenet.org/diy-solar-system-app>

Figure 10. DIY Sun Science & Solar System Apps		
I am aware of the app(s)	I have download the app(s)	We have promoted the DIY app to visitors in some way (in person, on social media, etc.)
77%	29%	15%

Figure 11. DIY Apps Download Data	
DIY Solar System (App Store & Google Play)	5,500 downloads
DIY Sun Science (App Store & Google Play)	520,146 downloads
TOTAL	525,646 downloads

Use of Materials During 2023

Kit recipients were asked to briefly describe their Earth and space science in-person, virtual, or other public programming during 2023 (including the annual solar eclipse). Descriptions could include the types of public engagement activities they offered, how they worked with any collaborators, and audiences reached.

Most respondents talked about how they were using activities and resources within existing programs they offer such as special events, regular ongoing museum programming, afterschool programming, camps, and more.

Figure 12.

Examples Responses of Kit Materials Use During 2023

[museum names and locations have been removed]

We used the Voyage through the Solar System Kit, along with existing Earth & Space kits in collaboration with school groups and on the floor with general museum visitors. The Moon Adventure Game has been used in combination with a moon-themed planetarium movie, in a program titled "Interactive Quest: Moon Adventure". It is part of an offering called Private Planetarium Experience where a small group of up to 6 can watch a private planetarium movie and then engage in the Moon Adventure Game. It has been very well received and has led us to create additional options for Private Planetarium Experiences.

We use the kits for our preschool programming most recently for our pint-size problem solvers we used the Mars rover kit. We also use the kits for camps and classes, this fall we taught a class about the moon and have used many kits including, the space medallion kit. the build a moon base kit, your mission to space board game, stomp rockets, Design, test, build and we ended the class with the moon adventure game which was a big hit. We have also developed a space workshop for visiting school groups that they can book. We have 5 stations with parent helpers set up around our classroom which are all Nise network kits and the kids explore them. We use the star formation kit as a station, the design test build kit, orbiting objects, Nebula spin art, and a variety of the moon kits like story blocks and hide and seek moon. We use the kits as often as we can and they are always a big hit and easy for our educators.

We hosted two session of Space Camp at the museum (5-7 year olds and 8-12 year olds). During these camps, we utilize many {NISE Network} activities. Star Formation and Nebula Spin Art are camper favorites! Additionally, we presented science nights at local schools including two Aurora Science Nights. We work closely with afterschool educators and programs and share {NISE Network} resources directly and through our website. Other offsite programs included an

outer space program for foster families or those with housing insecurity. {NISE Network} activities are also part of our Museum Kits for loan.

Throughout 2023, {our museum} successfully integrated the {NISE Network} Earth & Space toolkit programs into a diverse range of public engagement initiatives, on-site in daily programming and special events and off-site at outreach and community events. These programs have become a staple in our everyday scheduled public programs and pop up demonstrations at engagement stations throughout the center. We have also tailored toolkit programs to align with various themed days and events throughout the year including the following: History Makers: Black History Month, History Makers: Women's History Month, Friday Nights [at our museum] (adult's only nights), Global Recycling Day, Robotics Week, Earth Day, Astronomy Week (spring and fall), Asian American and Pacific Islander Heritage Month, Pride in STEM (Pride Month programming), Asteroid Day, Hispanic Heritage Month, Earth Science Week, Sun Day on a Saturday (annular eclipse), Native American Heritage Month, and Arrakis Adventures (a Dune-themed special day). In {addition} to themed events, we strategically utilized toolkit programs alongside the traveling exhibit, Explore your World (formerly Map It!). Programs like Rising Sea aligned perfectly with the exhibits featured within allowing for intentional and dynamic exhibit interpretation. This year also saw the return of the Sun, Earth, Universe exhibit which had been on loan to a partner institution in [name of city, state].

As a newcomer to {NISE Network} materials, we have only been using them for part of 2023 - this narrative relates just to those activities. We have used activities as part of our Astronomy Day in September, that attracted over 500 people to our observatory/planetarium. Volunteers also had a booth at the Madison Street Fair as well as at the International Observe the Moon night and the [state name] STEAMfest in October. Our volunteers have presented about two dozen private homeschool/youth group planetarium shows, many of which have requested additional hands-on activities. In addition, our volunteer who presents our 'Kids Night at the Planetarium' show every other month has been using moon-related activities. We recently did a birthday party for a young astronomy-mad girl and were able to engage her and her friends on a solar system scale walk. In general, we are finding that the activities are helpful for our outreach activities. Most of the organized group visits to our site are for a specific planetarium show and observatory tour and do not have time for extended activities. We have been approached about working with the Girl Scouts to put badge activities together, and potentially running summer camps next year - subject to us finding suitable volunteers.

Audiences Reached During 2023

Kit recipients were asked to identify the underserved audiences they reached through their Earth & Space public engagement in 2023.

Figure 13. Underserved Audiences Reached through Earth & Space public engagement in 2023 n=317	
racial and ethnic minorities / communities of color	77%
American Indian / Alaska Native	24%
girls	85%
low-income / lower socio-economic status	84%
Spanish-speaking audiences	55%
other non-native English speakers	33%
disabled / differently abled	52%
rural	55%
inner city	43%
at-risk youth	42%
other underserved audiences (please describe)	9%
N/A	7%

“Other underserved audiences” open-ended responses included:

LGBTQIA+, military families, refugees, preschoolers, seniors, Title 1 schools, homeless/unhoused youth and families, incarcerated individuals, Juvenile Detention Center, senior citizens, unhoused youth, neurodiverse/autism spectrum, Native Hawaiian and Pacific Islanders, Marshallese families, and Appalachian.

Collaborations During 2023

Kit recipients were asked to note the kinds of collaborations with individuals or organizations they have that support their Earth & space science public engagement.

Figure 14. Collaborations Supporting Earth & space science public engagement in 2023 n=317	
early childhood programs	48%
K-12 schools and teachers	70%
youth-serving organizations (scouts, afterschool programs, 4-H etc.)	58%
community groups and/or faith-based organizations	39%
museums or libraries	56%
college students	31%
college faculty and/or staff	27%
NASA scientist or educator	17%
Earth and space science enthusiasts or amateur astronomy club members	43%
Solar System Ambassador	17%
other (please describe)	8%

Public Engagement Plans for 2024

When asked how their organization plans to use any NISE Network Earth and space science public engagement materials in 2024 respondents' most common responses were special events, brief table top activities, camps, and K-12 school outreach.

Figure 15. Public Engagement Plans in 2024 n ranged between 301-313			
	Yes	No	Not sure
cart demonstrations / brief table top activities	83%	6%	11%
longer museum programs (e.g. forums, classes, labs, science club)	52%	22%	27%
K-12 school outreach (e.g. classes, field trips, science fair)	69%	10%	20%
afterschool programming	40%	34%	27%
special events (e.g. space events, Earth science events, family nights, festivals)	87%	3%	10%
camps (e.g. summer camp, holiday camp, day camp)	69%	13%	18%
local youth service organizations outreach (4-H, Boys & Girls Clubs of America, Boy Scouts of America, Girl Scouts, Girls Inc., PTA, the Y, YWCA, etc.)	47%	17%	35%
library outreach	39%	29%	32%
home school programs	46%	23%	32%
adult-only events	19%	44%	37%
lesson activities within college courses	10%	68%	23%
longer term display of materials in public spaces (e.g. within exhibits, on the museum floor, on a table)	28%	38%	34%
celestial events (e.g. star gazing, meteor showers, moon viewing, eclipses, etc.)	73%	8%	19%

Figure 16.
Examples of Parter Plans for 2024

[museum names and locations have been removed]

It has taken our institution a while to get staffed back up to pre-pandemic levels. Now that we are, and have Educational Experience Assistants that interact with visitors daily, the goal is to facilitate these activities weekly (Friday - Sunday) as part of a "Space Sci Lab" that would take place once per day. We will continue to use these as part of School Group field trips and winter/spring break and summer camps. In addition to continuing to use the Moon Adventure Game as part of a Private Planetarium Experience, we will be combining other activities with planetarium movies to provide more options for visitors to choose from. The Private Planetarium Experience has been popular, although visitors have shared it would be nice to have other options and almost 85% say they'd either likely or high likely attend a similar program in the future.

We plan to continue using them for camps, classes, and programs and during space month at the museum. We also might be planning an adult trivia night that is space-themed and we would use the kits as part of the experience.

We will continue our varied space science outreach through our partnership in NASA HEAT, private donors, and NISEnet. We plan to host science nights at local schools (some space themed), host Space Camp, and incorporate activities into museum events throughout the year. Additionally, we promote resources to educators throughout [our state] through our space science webpage {link} and museum kits.

We will continue to utilize NISEnet Earth & Space toolkit programs for public engagement initiatives like on-site in daily programming and special events and off-site at outreach and community events. Many of the events we celebrated in 2023 are events we celebrated annually. We will have a new traveling exhibit called Earth Matters which aligns well with the earth science programs featured within the toolkits. We look forward to expanding our NISEnet program integration into our more formal side of visitor engagement. While we already use NISEnet programs for homeschool labs and camps, we will be bringing back afterschool initiatives for middle and high school youth as well as expanding some of our school and library outreach beyond tabling events.

In the upcoming year, we are enthusiastic about continuing our successful utilization of NISE Network materials for our Pie & Sky events, with plans to incorporate these activities monthly until our break for monsoon season in July 2024. We have even proactively downloaded the educational materials from some of the previous year's kits that we didn't receive and will be assembling the necessary components ourselves. The versatility and comprehensiveness of the NISE Network's activities make them seamlessly adaptable to various community engagement opportunities. We anticipate that these materials will continue to play a pivotal role in enhancing the appeal and educational value of our events, ensuring ongoing participation and interest from our community members.

In 2024, {our museum} plans to continue utilizing "Voyage through the Solar System" and "Explore Science: Earth & Space" kits during on and off-site Family STEM events, summer camp, and scout programs. March will be a month-long exploration of the planet Mars. Many connections will be made using "Exploring the Solar System: Mars Rovers" as an introduction to code and "Build a Human Habitat on Mars" to understand the challenges of living in space. "Exploring Earth: Investigating Clouds" will be incorporated into our Earth Day series as it connects with the museum's collection of environmental aircraft. Many of the smaller kits will be utilized during our annual "We Can Do It Together: Inspiring Girls in STEAM" as we encourage middle and high school women to pursue careers in the STEM/STEAM field.

We plan to continue our Science Fridays at the local library pairing activities from the different kits such as Breath of Fresh Air with Moon Mission Story Blocks, Build A Moon Base Camp with Mission to Mars Board Game and Space Guess Quest, Crater Creations with Hide and Seek with the Moon, Nebula Spin Art with Creating Planets (our own science and art activity), and the Moon Adventure Game with Design, Test, Build. We also will be using Star Formation, Temperature Mapping, and Space Souvenirs with other science programs. These same types of activities will be used in our Science Studio to focus on beginning and intermediate science concepts as well as being added to our list of options for further studies for elementary students presented here at {our museum}, Outreach topics, and Birthday Party Options. We plan to have a pre-eclipse preparation event on Friday, April 5th. We also are planning a new marketing strategy to create more opportunities for the Scouts to earn science badges, including an overnight experience at the museum.

We will be engaging guests via a Solar Eclipse Day special event program on April 8th, 2024. In the lead-up to this day, we will be engaging up to 40,000 K-5 students in {county name} virtually with a special Eclipse presentation. We will also be producing a custom Frost Planetarium show about eclipses to provide to two high schools in [our county] that have their own planetariums, which will be shown to students at those schools in partnership with [public schools]. This in-house-produced show will also be live-presented to museum guests in the {our planetarium} during a daily live planetarium show in the month leading up to the April 8th eclipse. Floor programming and outreach programming will continue as well.

We plan on hiring a STEM Educator and to expand our programs. The educator will utilize the NISE Network materials during outreach, on-site, and virtual programming. We are also starting a Teen Science Cafe and the Teen Leaders will be utilizing components of the kits as activities during their meetings. Also, we plan on expanding our summer camp offerings and will be incorporating the kits into the camp programming.

[Our museum] plans to visit libraries to prepare patrons for the April eclipse with outreach events focused on safely viewing the eclipse. We will bring the Solar Eclipse and Big Sun, Small Moon activities. We already have two library events scheduled for the spring. We will also host our final Behind the Telescope event in March for middle school Girl Scouts. The event will prepare the scouts for the solar eclipse with safe viewing techniques, solar eclipse glasses, and experiments to try at home including pinhole projectors. We anticipate 30 - 50 scouts and their families to participate in this event. During the eclipse, we plan to use solar glasses, sun funnels, Sunspotters, and solar telescopes to safely view the Sun. As staffing permits, we will also host activity tables with the Big Sun, Small Moon and Solar Eclipse activities. Our 2017 eclipse event brought over 10,000 people to campus to view the eclipse.

We have ambitious plans for 2024. We are aiming to add adult events and member events to our line up that will include several of the kits with planetarium viewings and telescope exploration. We will continue to host toddler (January and September) and homeschool student events (January, March, September, and November) with various kits being added. With the hiring of new staff, we will offer additional summer camps to expand our STEM offerings. We are also considering STEM additions that will include the kits in activities and events offered at our 3 history sites and art gallery based on upcoming exhibitions. Our 2nd Saturday programs include a public event on the Saturday and also special needs/sensory-friendly time on the following Sunday morning that follows the same theme. Each Sunday we have 50-200 visitors that are exploring in a less-overwhelming environment and enjoying the same activities. We are hoping to expand our community outreach with additional offerings in the way of afterschool and weekend clubs and presence at existing events for foster families and community health organizations.

In addition to our plans to use several kits in April for the total eclipse, we are creating a Library Outreach to use this summer in conjunction with the summer reading program theme "Adventures Begin at your Library". We provide a free experience for 50-100 children at each of the many [regional] libraries. We will continue to provide badge work with our scouts and insert kits into our camps and homeschool workshops. With the success of using NISE kits with our planetarium, we will also add this to our field trips and school outreaches.

Solar Eclipse Public Engagement Plans in 2024

The NISE Network compiled extensive public engagement materials for the 2023 and 2024 solar eclipses (<https://nisenet.org/solareclipse>) and promoted these materials to partners through the kits, emails, newsletters, social media, online workshops, and conference booths and presentations.

Kit recipients were asked if they planned to use any NISE Network materials in advance or during the April 8, 2024 Total Solar Eclipse. The majority of recipients who reported indeed had plans to use NISE Network materials, with only 3% indicating they were definitely **not** planning to use the solar eclipse materials.

Figure 17. Total Solar Eclipse Plans in 2024 Plan to use any NISE Network materials in advance or during the April 8, 2024 Total Solar Eclipse n=316			
	Yes	No	Not sure
Plan to use any NISE Network materials in advance or during the April 8, 2024 Total Solar Eclipse	76%	3%	21%

Professional Development Online Workshops

The NISE Network holds an ongoing series of free professional development online workshops designed for informal science educators. Below is a summary of the workshops that featured content from the Voyage through the Solar System kit.

Figure 18.
Professional Development: Online Workshops

Workshop Name	Event Date	Registrants	Video Views** directly on Vimeo through 9/4/2024	Video Impressions*** includes embedded videos through 9/4/2024
Kick-Start Your Planning for 2023 and 2024 Solar Eclipse Events https://vimeo.com/nisenet/kickstartplanningeclipse2023and2024	10/25/22	209	137	2,353
Take A Voyage through the Solar System with the NISE Network! https://vimeo.com/825549929	5/9/23	95	31	498
One Year of Science and Discovery with the Webb Space Telescope https://vimeo.com/853115251	8/8/23	68	31	1,984
Solar Eclipse Event Planning for October 14, 2023 - A Review of the Newest Resources https://vimeo.com/nisenet/onlineworkshop-eclipse2023-2024	9/12/23	305	67	2,091
Totality or Bust! Partners Talk Planning for the 2024 Total Solar Eclipse https://vimeo.com/nisenet/totalityorbust2024	1/9/24	161	28	2,170
Practices, Principles, and Programming for Engaging Blind and Low Vision Audiences https://vimeo.com/926380122	3/12/24	175	44	1,397
Find Your Place in Space - Engaging the Artemis Generation with Activities, Apps and More https://vimeo.com/nisenet/artemis2024	5/7/24	109	31	498
Supersized STEM - All About Planning for Science Festivals and Big STEM Events https://vimeo.com/nisenet/bigstem2024	7/23/24	208	25	183
TOTALS		1,330	394	11,174

*Views: The number of times a video has started playing on Vimeo (this does not include embedded videos such as on nisenet.org and other collaborator's sites).

** Video Impressions: The number of times a video is loaded on a Vimeo page or another website where it's embedded.

Figure 19.
Professional Development:
Website Visitation and Training Videos Views

Training Videos and Web Pages	Web Page Views on nisenet.org Google Analytics4*** (6-26-2023 through 9-4-24)	Video Views** directly on Vimeo through 9/4/2024	Video Impressions*** includes embedded videos through 9/4/2024
Build a Moon Base Camp - Voyage Through the Solar System Facilitation Training Video https://nisenet.org/catalog/build-moon-base-camp https://vimeo.com/nisenet/buildmoonbasecamp	1,527	204	2,379
Space Souvenir - Voyage Through the Solar System Facilitation Training Video https://www.nisenet.org/catalog/space-souvenir https://vimeo.com/nisenet/spacesouvenir	928	220	1,717
Breath of Fresh Air - Voyage Through the Solar System Facilitation Training Video https://www.nisenet.org/catalog/breath-fresh-air https://vimeo.com/nisenet/breathoffreshair	1,207	294	2,058
Voyage through the Solar System Kit Activity Training Videos https://nisenet.org/catalog/voyage-through-solar-syst-em-kit-activity-training-videos	136	n/a	n/a
DIY Solar System Preview Video https://www.nisenet.org/diy-solar-system-app https://vimeo.com/850662292	1,150	110	2,618
DIY Sun Science https://www.nisenet.org/diy-sun-science-app https://vimeo.com/850662292	1,736	n/a	n/a
Solar Eclipse compilation of resources https://www.nisenet.org/solareclipse	11,692	n/a	n/a
Preparing for a Solar Eclipse Slide Presentation - Updated for 2023 & 2024 https://www.nisenet.org/solareclipseslides	6,517	n/a	n/a
TOTALS	24,893	828	8,772

*Views: The number of times a video has started playing on Vimeo (this does not include embedded videos such as on nisenet.org).

** Video Impressions: The number of times a video is loaded on a Vimeo page or another website where it's embedded.

***Google Analytics limitations: Please note that the nisenet.org website transitioned from Google Standard Universal Analytics to Google Analytics 4 at the time of the July 1, 2023 deadline transition for all users. All Google Analytics customers lost access to the Universal Analytics interface starting on July 1, 2024, so we do not have page-specific data before 7-1-23.

Acknowledgements



This material is based upon work supported by NASA under grant numbers 80NSSC21M0082 and 80NSSC18K1219 and cooperative agreement award numbers NNX16AC67A and 80NSSC18M0061.

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).

Appendices

Appendix 1 - List of Kit Recipients

Appendix 2 - Kit Application Overview

Appendix 3 - Kit Application

Appendix 4 - Kit Report form

Appendix 1 - List of Kit Recipients

Voyage through the Solar System physical kit recipients in 2023

Listed alphabetically by state

AK, Anchorage, Anchorage Museum, <https://www.anchoragemuseum.org/>
AK, Fairbanks, University of Alaska Museum of the North, <https://www.uaf.edu/museum/>
AK, Fairbanks, Fairbanks Children's Museum, <https://www.fairbankschildrensmuseum.com>
AK, Kenai, Challenger Learning Center of Alaska, <https://akchallenger.org>
AL, Birmingham, McWane Science Center, <https://www.mcwane.org>
AL, Brownsboro, Von Braun Planetarium and Observatories, <https://vbas.org>
AL, Huntsville, U.S. Space & Rocket Center, <https://www.rocketcenter.com>
AL, Huntsville, EarlyWorks Museums, <https://earlyworks.com>
AL, Mobile, Gulf Coast Exploreum Science Center, <https://www.exploreum.com>
AR, Fayetteville, University of Arkansas - Center for Math and Science Education, <https://cmase.uark.edu/>
AR, Hot Springs, Mid-America Science Museum, <https://www.midamericamuseum.org>
AR, Jonesboro, Arkansas State University Museum, <https://astate.edu/Museum/>
AR, Little Rock, Museum of Discovery, <https://museumofdiscovery.org>
AZ, Bisbee, Bisbee Science Exploration & Research Center, <https://www.bisbeesciencelab.org>
AZ, Phoenix, The Earth and Space Expedition Center (formerly Challenger Space Center of AZ), <https://www.earthandspaceexpeditioncenter.org/>
AZ, Phoenix, Arizona Science Center (ASC), <https://www.azscience.org>
AZ, Prescott, Embry-Riddle Aeronautical University - Prescott Observatory and Jim & Linda Lee Planetarium, <https://prescott.erau.edu/about/labs/observatory>
AZ, Sierra Vista, Patterson Observatory - University South Foundation, <https://www.universitysouthfoundation.com>
AZ, Tempe, Arizona State University - School for the Future of Innovation in Society (ASU SFIS), <https://globalfutures.asu.edu/ciis/>
AZ, Tucson, Children's Museum Tucson / Oro Valley, <https://childrensmuseumtucson.org/>
AZ, Yuma, Children's Museum of Yuma County, <http://yumachildrensmuseum.com/>
CA, Arcata, Humboldt State University Natural History Museum (HSU), <https://natmus.humboldt.edu>
CA, Berkeley, Lawrence Hall of Science, <https://www.lawrencehallofscience.org>
CA, Camarillo, kidSTREAM - Children's Museum in Ventura County, <https://www.kidstream.org>
CA, Chico, Gateway Science Museum (Cal State University Chico), <https://www.csuchico.edu/>
CA, Costa Mesa, Orange Coast College Planetarium, <https://orangeoastcollege.edu/community/planetarium/index.html>
CA, Escondido, San Diego Children's Discovery Museum, <https://www.sdcdm.org/>

CA, Fresno, Fresno Discovery Center, <https://www.fresnodiscoverycenter.org/>

CA, Kelseyville, Taylor Observatory-Norton Planetarium (Lake County Office of Education), <https://www.lakeco.org/taylor>

CA, La Habra, Children's Museum at La Habra, <https://www.lhcm.org>

CA, McClellan, Aerospace Museum of California, <https://aerospaceca.org/>

CA, Modesto, The Great Valley Museum, <https://www.mjc.edu/instruction/sme/gvm/planetarium.php>

CA, Oakland, Chabot Space & Science Center, <https://chabotspace.org/>

CA, Pacific Grove, Pacific Grove Museum of Natural History, <https://www.pgmuseum.org/>

CA, Rancho Cordova, Sacramento Children's Museum, <https://sackids.org>

CA, Redding, Turtle Bay Exploration Park, <https://www.turtlebay.org>

CA, Sacramento, SMUD Museum of Science and Curiosity, <https://visitmosac.org/>

CA, San Diego, Fleet Science Center, <https://www.fleetscience.org/>

CA, San Francisco, California Academy of Sciences (Cal Academy) Morrison Planetarium, <https://www.calacademy.org>

CA, San Francisco, Children's Creativity Museum, <https://creativity.org>

CA, Santa Barbara, Santa Barbara Museum of Natural History, <https://www.sbnature.org/>

CA, Temecula, Pennypickle's Workshop - Temecula Children's Museum, <http://www.pennypickles.org/>

CA, Ventura, Ventura County Discovery Center, <https://discoverycntr.org/>

CO, Boulder, CU Science Discovery - University of Colorado Boulder, <https://www.colorado.edu/sciencediscovery/>

CO, Boulder, Thorne Nature Experience, <https://thornenature.org/>

CO, Colorado Springs, Challenger Learning Center of Colorado, <https://www.challengercolorado.org/>

CO, Fort Collins, Fort Collins Museum of Discovery, <https://fcmuseum.org/>

CO, Lafayette, WOW! Children's Museum, <https://wowchildrensmuseum.org>

CO, Windsor, Town of Windsor Museums, <https://www.recreationliveshere.com/188/Windsor-History-Museum>

CT, Bridgeport, Sacred Heart University's Discovery Science Center and Planetarium, <https://www.shudiscovery.org/>

CT, Bristol, Imagine Nation, <https://www.imagenation.org/>

CT, Newtown, EverWonder Children's Museum, <https://www.everwondermuseum.org>

CT, Niantic, Niantic Children's Museum, <https://www.nianticchildrensmuseum.org>

CT, Norwalk, Stepping Stones Museum for Children, <https://www.steppingstonesmuseum.org/>

CT, West Hartford, The Children's Museum, <https://www.thechildrensmuseumct.org/>

DC, Washington, Smithsonian National Air and Space Museum, <https://airandspace.si.edu>

DE, Wilmington, Delaware Museum of Nature & Science, <https://delmns.org/>

FL, DeLand, Gillespie Museum - Stetson University, <https://www.stetson.edu/other/gillespie-museum/>

FL, Fort Lauderdale, Museum of Discovery and Science, <https://mods.org>

FL, Fort Myers, IMAG History and Science Center, <https://theimag.org>

FL, Fort Walton Beach, Emerald Coast Science Center, <https://www.ecscience.org/>

FL, Jensen Beach, The Children's Museum of the Treasure Coast, <https://www.childrensmuseumtc.org>

FL, Lakeland, Florida Children's Museum, <https://explorefcm.org>

FL, Miami, Miami Children's Museum, <https://www.miamichildrensmuseum.org>

FL, Miami, Patricia and Phillip Frost Museum of Science, <https://www.frostscience.org>

FL, Orlando, Orlando Science Center, <https://www.osc.org/>

FL, Pensacola, Pensacola MESS Hall, <https://pensacolamesshall.org/>

FL, St. Petersburg, Great Explorations, <https://greatex.org>

FL, Tallahassee, Challenger Learning Center - Tallahassee, <https://www.challengertlh.com/>

FL, Tampa, Museum of Science and Industry (MOSI), <https://www.mosi.org>

FL, West Palm Beach, Cox Science Center and Aquarium, <https://www.coxsciencecenter.org>

GA, Albany, Thronteeksa Heritage Foundation - Wetherbee Planetarium, <https://heritagecenter.org>

GA, Atlanta, Fernbank Science Center, <http://www.fernbank.edu>

GA, Cartersville, Tellus Science Museum, <https://tellusmuseum.org/>

GA, Columbus, Coca-Cola Space Science Center - Columbus University, <https://www.ccssc.org>

GA, Macon, Museum of Arts and Sciences - Mark Smith Planetarium, <https://www.masmacon.org>

GA, Young Harris, Young Harris College - Rollins Planetarium, <https://www.yhc.edu/academics/math-science/rollins-planetarium>

HI, Hilo, Imiloa Astronomy Center of Hawai'i, <https://imiloahawaii.org>

HI, Hilo, Hawaii Science and Technology Museum, <https://hawaii sciencemuseum.org>

HI, Honolulu, Hawaii Children's Discovery Center, <https://discoverycenterhawaii.org/>

HI, Honolulu, Bishop Museum, <https://www.bishopmuseum.org/>

HI, Waimea, Kauai Community Science Center, <https://kauaicsc.org>

IA, Ames, Iowa State University, <https://www.iastate.edu/>

IA, Coralville, The Iowa Children's Museum, <https://theicm.org/>

IA, Des Moines, Science Center of Iowa, <https://www.sciowa.org/>

ID, Boise, Discovery Center of Idaho, <https://www.dcidaho.org/>

ID, Idaho Falls, Museum of Idaho, <https://museumofidaho.org/>

ID, Meridian, Children's Museum of Idaho, <https://www.cmidaho.org/>

ID, Twin Falls, Children's Museum of the Magic Valley, <https://cmmv.org>

IL, Carbondale, The Science Center, <https://sciencecentersi.com/>

IL, Chicago, One Lawndale Children's Discovery Center, <https://1lcdc.org/>

IL, DeKalb, Northern Illinois University STEAM (NIU STEAM), <https://niusteam.niu.edu/>

IL, Homewood, Homewood Science Center, <https://www.homewoodsciencecenter.org>

IL, Normal, Children's Discovery Museum, <https://www.childrensdiscoverymuseum.net/>

IL, Oak Park, Wonder Works Children's Museum, <https://wonder-works.org/>

IL, Rockford, Discovery Center Museum, <https://www.discoverycentermuseum.org>

IL, Woodstock, Challenger Learning Center - Woodstock, <https://challengerillinois.org/>

IN, Bloomington, WonderLab Museum of Science Health and Technology, <https://wonderlab.org/>

IN, Columbus, kidscommons, <https://www.kidscommons.org>

IN, Crawfordsville, Carnegie Museum of Montgomery County, <http://www.cdpl.lib.in.us/services/carnegie/>

IN, Fort Wayne, Science Central, <https://www.sciencecentral.org>

IN, Hammond, Challenger Learning Center - NW Indiana, <https://www.clcnwi.com/>

IN, Indianapolis, Grand Universe Space Science Institute, <https://www.granduniverse.org/>

IN, Indianapolis, Indiana State Museum and Historic Sites, <https://www.indianamuseum.org/>

IN, Indianapolis, The Children's Museum of Indianapolis, <https://www.childrensmuseum.org>

IN, Lafayette, Imagination Station, <https://www.imagination-station.org>

IN, Muncie, Muncie Children's Museum, <https://www.munciemuseum.com/>

IN, Richmond, Joseph Moore Museum at Earlham College, <https://earlham.edu/joseph-moore-museum/>

IN, Terre Haute, Terre Haute Children's Museum, <https://thchildrensmuseum.com/>

KS, Holton, Banner Creek Science Center and Observatory, <https://www.bcscience.org>

KS, Manhattan, Flint Hills Discovery Center, <https://www.flinthillsdiscovery.org/>

KS, Topeka, Kansas Children's Discovery Center, <https://kansasdiscovery.org/>

KS, Wichita, Exploration Place, <https://exploration.org/>

KY, Highland Heights, Haile Planetarium, <https://www.nku.edu/planetarium.html>

KY, Louisville, Kentucky Science Center, <https://kysciencecenter.org>

KY, Owensboro, Owensboro Museum of Science & History, <https://owensboromuseum.org/>

KY, Paducah, Challenger Learning Center at Paducah, <https://westkentucky.kctcs.edu/community/challenger/>

KY, Prestonsburg, East Kentucky Science Center and Planetarium, <https://bigsandy.kctcs.edu/community/eksc/>

LA, Baton Rouge, Louisiana Art and Science Museum (LASM), <https://www.lasm.org/>

LA, Baton Rouge, Knock Knock Children's Museum, <https://knockknockmuseum.org/>

LA, Luling, St. Charles Parish Library Planetarium, <https://www.myscpl.org/planetarium>

LA, Manderville, Children's Museum of St. Tammany, <https://cmstkids.org/>

LA, Shreveport, Sci-Port Discovery Center, <https://sci-port.org/>

MA, Boston, Museum of Science, <https://www.mos.org>

MA, Brewster, Cape Cod Museum of Natural History, <https://ccmnh.org/>

MA, Holyoke, Children's Museum at Holyoke, <https://www.childrensmuseumholyoke.org/>

MA, Nantucket, Maria Mitchell Association, <https://www.mariamitchell.org>

MA, North Easton, Children's Museum In Easton, <https://www.cmeaston.org/>

MA, Norwell, South Shore Natural Science Center (South Shore YMCA), <https://southshorenaturalsciencecenter.org/>

MA, Springfield, Springfield Science Museum, <https://springfieldmuseums.org/about/springfield-science-museum/>

MA, Westport, Westport River Watershed Alliance, <https://www.westportwatershed.org>

MA, Worcester, EcoTarium, <https://ecotarium.org/>

MD, Baltimore, Maryland Science Center, <https://www.mdsci.org>

MD, Columbia, James and Anne Robinson Nature Center, <https://www.howardcountymd.gov/Robinson>

MD, Gaithersburg, Gaithersburg Community Museum, <https://www.gaithersburgmd.gov/about-us/city-facilities/gaithersburg-co...>

MD, Greenbelt, NASA Goddard Space Flight Center (GSFC), <https://www.nasa.gov/goddard/>

MD, Hagerstown, Discovery Station at Hagerstown, <https://discoverystation.org>

MD, Rockville, Rockville Science Center, <https://www.rockvillesciencecenter.org/>

ME, Bangor, Maine Discovery Museum, <https://www.mainediscoverymuseum.org>

ME, Hinckley, L.C.Bates Museum, <https://www.gwh.org/lcbates>

ME, Orono, Versant Power Astronomy Center - University of Maine, <https://umaine.edu>, <http://astro.umaine.edu>

ME, Portland, Children's Museum of Maine (Children's Museum & Theatre of Maine), <https://www.kitetails.org/>

MI, Ann Arbor, Ann Arbor Hands On Museum, <https://discoverscienceandnature.org>

MI, Detroit, Outdoor Adventure Center - Michigan Department of Natural Resources, <https://www.michigan.gov/oac>

MI, Detroit, Michigan Science Center (MiSci), <https://www.mi-sci.org/>

MI, Grand Rapids, Grand Rapids Public Museum, <https://www.grpm.org>

MI, Grand Rapids, Grand Rapids Children's Museum, <https://www.grcm.org>

MI, Jackson, Ella Sharp Museum, <https://ellasharpmuseum.org>

MI, Jackson, Imagine Planet, <https://imagineplanet.net>

MI, Kalamazoo, Kalamazoo Valley Museum, <https://kalamazoomuseum.org>

MI, Midland, Midland Center for the Arts - Alden B. Dow Museum of Science & Art, <https://www.midlandcenter.org/>

MI, Mt. Pleasant, Central Michigan University, <https://www.cmich.edu>

MI, New Boston, Huron-Clinton Metroparks - Oakwoods Nature Center, <https://www.metroparks.com>

MI, Portage, Air Zoo, <https://www.airzoo.org/>

MI, Saginaw, Mid-Michigan Children's Museum, <https://www.michildrensmuseum.org>

MI, Spring Lake, The Grand Haven Children's Museum, <https://grandhavenchildrensmuseum.org/>

MI, Traverse City, Great Lakes Children's Museum, <https://www.greatlakeskids.org>

MN, Bemidji, Headwaters Science Center, <https://www.hscbemidji.org/>

MN, Duluth, Duluth Children's Museum, <https://www.playduluth.org/>

MN, Duluth, University of Minnesota - Duluth (Marshall W. Alworth Planetarium), <https://scse.d.umn.edu/marshall-w-alworth-planetarium>

MN, Minneapolis, The Bakken Museum, <https://thebakken.org>

MN, Moorhead, MSUM Planetarium (Minnesota State University Moorhead - Fargo Campus), <https://www.mnstate.edu/planetarium/>

MN, Saint Cloud, Great River Children's Museum, <https://greatrivercm.org/>

MN, Saint Paul, Bell Museum of Natural History, <https://www.bellmuseum.umn.edu/>

MO, Joplin, Creative Learning Alliance, <https://creativelearningalliance.org>

MO, Kansas City, Science City at Union Station, <https://www.unionstation.org/sciencecity>

MO, Malden, Bootheel Youth Museum, <https://www.bootheelyouthmuseum.org/>

MO, Rolla, The Kaleidoscope Discovery Center, <https://thekaleidoscope.org>

MO, Springfield, Discovery Center of Springfield, <https://www.discoverycenter.org>

MS, Gulfport, Lynn Meadows Discovery Center, <https://lmdc.org/>

MS, Pearlinton, Infinity Science Center, <https://visitinfinity.com/>

MT, Billings, Wise Wonders - A Montana Children's Museum, <https://wisewonders.org/>

MT, Bozeman, Montana State University Academic Technology and Outreach, <https://ato.montana.edu/>

MT, Helena, Exploration Works!, <https://www.explorationworks.org>

MT, Kalispell, Wildtorium (formerly Glacier Children's Museum), <https://www.wildtorium.org/>

MT, Missoula, University of Montana - spectrUM Discovery Area, <https://www.umn.edu/spectrum/>

NC, Asheville, Asheville Museum of Science, <https://ashevillescience.org/>

NC, Aurora, Aurora Fossil Museum, <https://aurorafossilmuseum.org/>

NC, Boone, The Children's Playhouse, <https://goplayhouse.org/>

NC, Chapel Hill, Kidzu Children's Museum, <https://www.kidzuchildrensmuseum.org>

NC, Chapel Hill, Morehead Planetarium and Science Center - UNC Chapel Hill, <https://moreheadplanetarium.org>

NC, Durham, Museum of Life and Science, <https://www.lifeandscience.org>

NC, Fayetteville, Fascinate-U Museum, <https://www.fascinate-u.com/>

NC, Greensboro, Miriam P. Brenner Children's Museum, <https://mbcmuseum.com/>

NC, Greensboro, Greensboro Science Center, <https://www.greensboroscience.org/>

NC, Hendersonville, Hands On! Children's Museum, <https://handsonwnc.org/>

NC, Hickory, Catawba Science Center, <https://catawbascience.org/>

NC, Jacksonville, Zing Zumm Children's Museum of Jacksonville, <https://zingzumm.org/>

NC, Lumberton, Robeson Planetarium and Science Center, <https://www.robeson.k12.nc.us/o/robeson/page/robeson-planetarium>

NC, Monroe, Monroe Science Center, <https://monroesciencecenter.com/>

NC, Raleigh, North Carolina Museum of Natural Sciences, <https://naturalsciences.org/>

NC, Raleigh, Marbles Kids Museum, <https://www.marbleskidsmuseum.org/>

NC, Rutherfordton, KidSenses Children's Museum, <https://www.kidsenses.org>

NC, Salisbury, Margaret C. Woodson Planetarium at Horizons Unlimited, <https://nc50010980.schoolwires.net/Page/91>

NC, Sunset Beach, Museum of Coastal Carolina Ingram Planetarium, <https://museumplanetarium.org/>

NC, Wilmington, Children's Museum of Wilmington, <https://www.playwilmington.org/>

NC, Winston-Salem, Kaleideum North, <https://kaleideum.org/>

ND, Bismarck, North Dakota's Gateway to Science, <https://gatewaytoscience.org>

NE, Aurora, Edgerton Explorit Center, <https://edgerton.org/>

NE, Kearney, Kearney Area Children's Museum, <https://kearneychildrensmuseum.org>

NE, Lincoln, Lincoln Children's Museum, <https://lincolnchildrensmuseum.org/>

NH, Concord, McAuliffe-Shepard Discovery Center, <https://www.starhop.com>

NH, Dover, Children's Museum of New Hampshire, <https://childrens-museum.org>

NH, Keene, Cheshire Children's Museum, <https://www.cheshirechildrensmuseum.org>

NH, Manchester, SEE Science Center, <https://see-sciencecenter.org/>

NJ, Glassboro, Rowan University - Edelman Planetarium, <https://sites.rowan.edu/planetarium/>

NJ, Jersey City, Liberty Science Center, <https://lsc.org>

NJ, Paterson, The Planetarium at P-Tech, <https://www.ptechplanetarium.com/>

NJ, Toms River, Ocean County College - Robert J. Novins Planetarium, <https://www.ocean.edu/content/public.html>

NM, Albuquerque, Explora, <https://www.explora.us>

NM, Albuquerque, New Mexico Museum of Natural History & Science, <https://www.nmnaturalhistory.org/>

NM, Farmington, E3 Children's Museum & Science Center, <http://www.fmtn.org/223/Museums>

NM, Los Alamos, Pajarito Environmental Education Center, <https://peechnature.org/>

NM, Los Alamos, Los Alamos National Laboratory- Bradbury Science Museum, <https://www.lanl.gov/museum/>

NM, Santa Fe, Santa Fe Children's Museum, <https://santafechildrensmuseum.org/>

NV, Las Vegas, Discovery Children's Museum, <https://www.discoverykidslv.org>

NV, North Las Vegas, College of Southern Nevada Planetarium, <https://www.csn.edu/planetarium-events>

NV, Reno, University of Nevada Reno - Fleischmann Planetarium and Science Center, <https://www.unr.edu/planetarium/>

NV, Reno, The Discovery - Terry Lee Wells Nevada Discovery Museum, <https://nvdm.org>

NY, Binghamton, Discovery Center of the Southern Tier, <https://thediscoverycenter.org>

NY, Buffalo, Buffalo Museum of Science, <https://www.sciencebuff.org/>

NY, Centerport, Vanderbilt Museum, <https://www.vanderbiltmuseum.org/>

NY, Corona, New York Hall of Science (NYSCI), <https://nysci.org>

NY, Garden City, Cradle of Aviation Museum, <https://www.cradleofaviation.org>

NY, Ithaca, Cornell University, <https://www.cornell.edu>

NY, Ithaca, Sciencenter, <https://www.sciencenter.org/>

NY, Loudonville, Dudley Observatory, <https://dudleyobservatory.org/>

NY, New York, Intrepid Sea Air and Space Museum, <https://www.intrepidmuseum.org>

NY, Oneonta, AJ Read Science Discovery Center at SUNY Oneonta, <https://suny.oneonta.edu/science-discovery-center>
 NY, Plattsburgh, NorthCountry Planetarium, <https://www.plattsburgh.edu/academics/planetarium/>
 NY, Port Jefferson, Long Island Explorium, <https://longislandexplorium.org>
 NY, Poughkeepsie, Mid-Hudson Discovery Museum, <https://mhdmm.org>
 NY, Rochester, Rochester Museum & Science Center (RMSC), <https://rmsc.org>
 NY, Rye, Westchester Children's Museum, <https://www.discoverwcm.org/>
 NY, Saratoga Springs, The Children's Museum at Saratoga, <https://cmssny.org/>
 NY, Schenectady, miSci Museum of Innovation and Science, <https://www.misci.org/>
 NY, Syracuse, Milton J. Rubenstein Museum of Science & Technology (MoST), <https://www.most.org/>
 NY, Upton, Brookhaven National Laboratory's Science Learning Center (BNL), <https://www.bnl.gov/education/>
 NY, Vestal, Kopernik Observatory & Science Center, <https://www.kopernik.org>
 OH, Akron, Akron Children's Museum, <https://akronkids.org/>
 OH, Cincinnati, Cincinnati Museum Center, <https://www.cincymuseum.org>
 OH, Cincinnati, Cincinnati Observatory Center, <https://www.cincinnatiobservatory.org/>
 OH, Cleveland, Great Lakes Science Center, <https://greatscience.com/>
 OH, Columbus, Center of Science and Industry (COSI), <https://cosi.org/>
 OH, Dayton, Boonshoft Museum of Discovery, <https://boonshoft.org/>
 OH, Newark, The Works: Ohio Center for History Art and Technology, <https://attheworks.org/>
 OH, Norwood, Drake Planetarium and Science Center, <https://www.drakeplanetarium.org/>
 OH, Toledo, University of Toledo - Ritter Planetarium, <https://www.utoledo.edu/nsm/rpbo/>
 OH, Toledo, Imagination Station, <https://www.imaginationstationtoledo.org>
 OK, Enid, Leonardo's Children's Museum, <https://www.leonardos.org>
 OK, Oklahoma City, Science Museum Oklahoma, <https://www.sciencemuseumok.org>
 OK, Tulsa, Tulsa Air & Space Museum & Planetarium, <https://www.tulsamuseum.org/>
 OR, Ashland, ScienceWorks Hands-On Museum, <https://scienceworksmuseum.org/>
 OR, Eugene, Eugene Science Center, <https://eugenesciencecenter.org/>
 PA, Allentown, Da Vinci Science Center, <https://www.davincisciencecenter.org>
 PA, Easton, Nurture Nature Center, <https://www.nurturenaturecenter.org/>
 PA, Elizabethville, Lykens Valley Children's Museum, <https://www.lykensvalleychildrensmuseum.org/>
 PA, Lancaster, Lancaster Science Factory, <https://www.lancastersciencefactory.org>
 PA, Lewisburg, Lewisburg Children's Museum, <https://www.lewisburgchildrensmuseum.org>
 PA, Philadelphia, American Philosophical Society's Library & Museum, <https://www.amphilsoc.org/>
 PA, Philadelphia, Please Touch Museum, <https://www.pleasetouchmuseum.org/>
 PA, Philadelphia, Franklin Institute, <https://www.fi.edu>
 PA, Pittsburgh, Moonshot Museum, <https://moonshotmuseum.org>
 PA, Pittsburgh, Carnegie Science Center, <https://carnegiesciencecenter.org/>

PA, Reading, Reading Public - Museum Neag Planetarium, <https://www.readingpublicmuseum.org/>

PA, State College, Discovery Space of Central Pennsylvania, <https://mydiscoveryspace.org>

PA, West Chester, West Chester University Mather Planetarium, <https://wcupa.edu/sciences-mathematics/earthSpaceSciences/planetarium/>

PA, West Chester, American Helicopter Museum & Education Center, <https://www.helicoptermuseum.org/>

PR, Arecibo, Arecibo C3 Visitor Center, <https://www.naic.edu/ao/visitor-center/overview>

RI, North Kingstown, Rhode Island Computer Museum, <https://www.ricomputermuseum.org>

RI, Providence, Roger Williams Park Museum of Natural History and Planetarium, <https://www.providenceri.gov/museum/>

SC, Charleston, Children's Museum of the Lowcountry, <https://explorecml.org/>

SC, Greenville, Roper Mountain Science Center, <https://ropermountain.org>

SC, Hilton Head Island, The Sandbox: An Interactive Children's Museum, <https://www.thesandbox.org/>

SC, Rock Hill, Museum Of York County - Main Street Children's Museum - Culture & Heritage Museums, <https://chmuseums.org/myco/>

SD, Brookings, Children's Museum of South Dakota, <https://prairieplay.org/>

SD, Pierre, South Dakota Discovery Center, <https://sd-discovery.org>

SD, Sioux Falls, Kirby Science Discovery Center at the Washington Pavilion of Arts and Science, <https://www.washingtonpavilion.org>

TN, Chattanooga, Creative Discovery Museum, <https://www.cdmfun.org/>

TN, Cookeville, Oakley STEM Center Tennessee Tech University, <https://www.tntech.edu/stem/>

TN, Gray, Hands On! Discovery Center, <https://visithandson.org>

TN, Knoxville, Muse Knoxville, <https://www.themuseknoxville.org/>

TN, Memphis, Museum of Science & History (formerly Pink Palace Museum), <https://moshmemphis.com>

TN, Murfreesboro, Discovery Center at Murfree Spring, <https://explorethcdc.org>

TN, Oak Ridge, American Museum of Science and Energy (AMSE), <https://amse.org/>

TX, Amarillo, Don Harrington Discovery Center (DHDC), <https://discoverycenteramarillo.org/>

TX, Arlington, University of Texas at Arlington, <https://www.uta.edu/planetarium/>

TX, Beaumont, Beaumont Children's Museum, <https://www.beaumontchildrensmuseum.org>

TX, Brownsville, Children's Museum of Brownsville, <https://cmofbrownsville.org/>

TX, Corpus Christi, Corpus Christi Museum of Science and History, <https://www.ccmuseum.com>

TX, Dallas, Perot Museum of Nature and Science, <https://www.perotmuseum.org>

TX, Dallas, Frontiers of Flight Museum, <https://www.flightmuseum.com>

TX, Denton, University of North Texas, <https://astronomy.unt.edu/>

TX, El Paso, The Gene Roddenberry Planetarium, El Paso Independent School District, <https://www.episd.org/planetarium>

TX, El Paso, Insights El Paso, <https://www.insightselpaso.org>

TX, Fort Davis, The University of Texas McDonald Observatory, <https://mcdonaldobservatory.org/>

TX, Fort Worth, Fort Worth Museum of Science and History, <https://www.fwmuseum.org>

TX, Frisco, Sci-Tech Discovery Center, <https://mindstretchingfun.org/>

TX, Galveston, Galveston Children's Museum, <https://galvestoncm.org/>

TX, Harlingen, Challenger Learning Center at Texas State Technical College- Harlingen, <https://www.tstc.edu/pre-college-admissions-programs/challenger-learnin...>

TX, Houston, Children's Museum of Houston, <https://www.cmhouston.org/>

TX, Lubbock, Science Spectrum, <https://sciencespectrum.org/>

TX, McAllen, International Museum of Art and Science (IMAS), <https://theimasonline.org/>

TX, Midland, Museum of the Southwest - Blakemore Planetarium, <https://www.museumsw.org/>

TX, Mont Belvieu, Chambers County Children's Museum, <https://chamberscountychildrensmuseum.org>

TX, San Antonio, Witte Museum, <https://www.witemuseum.org>

TX, San Antonio, The DoSeum, <https://www.thedoseum.org/>

TX, Sugar Land, The Houston Museum of Natural Science, <https://www.hmns.org>

TX, Temple, Temple Children's Museum, <https://www.templechildrensmuseum.org>

TX, The Woodlands, The Woodlands Children's Museum, <https://woodlandschildrensmuseum.org/>

TX, Waco, Texas State Technical College - Challenger Learning Center - Waco, <https://www.tstc.edu/pre-college-admissions-programs/challenger-learnin...>

UT, Ephraim, Snow College Planetarium, <https://www.snow.edu/planetarium>

UT, Lehi, Hutchings Museum, <https://johnhutchingsmuseum.org/>

UT, Lehi, Thanksgiving Point Institute - Museum of Natural Curiosity, <https://thanksgivingpoint.org/>

UT, Monticello, Canyon Country Discovery Center, <https://ccddiscovery.org/>

UT, Ogden, Utah State University 4-H Extension, <https://extension.usu.edu/weber/4H>

UT, Salt Lake City, Clark Planetarium, <https://slco.org/clark-planetarium/>

UT, Salt Lake City, The Leonardo (Utah Science Center), <https://theleonardo.org>

VA, Danville, Danville Science Center, <https://dsc.smv.org/>

VA, Hampton, Virginia Air and Space Center, <https://vasc.org/>

VA, Newport News, Virginia Living Museum, <https://thevlm.org/>

VA, Portsmouth, Children's Museum of Virginia - Portsmouth Museums, <https://childrensmuseumvirginia.com/>

VA, Radford, Radford University Planetarium, <https://www.radford.edu/content/csat/home/ru-planetarium.html>

VA, Richmond, The Children's Museum of Richmond, <https://www.childrensmuseumofrichmond.org/>

VA, Richmond, Science Museum of Virginia, <https://www.smv.org>

VA, Wallops Island, NASA Wallops Flight Facility, <https://www.nasa.gov/centers/wallops/visitorcenter>

VI, St Thomas, The Virgin Islands Children's Museum, <https://www.vichildrensmuseum.org>

VT, Burlington, ECHO Leahy Center for Lake Champlain, <https://www.echovermont.org/>

VT, Norwich, Montshire Museum of Science, <https://www.montshire.org/>

WA, Bainbridge Island, Kids Discovery Museum (KiDiMu), <https://www.kidimu.org>
WA, Everett, Imagine Children's Museum, <https://www.imaginecm.org>
WA, Lakewood, Pierce College Science Dome, <https://www.pierce.ctc.edu/science-dome>
WA, Olympia, Hands On Children's Museum, <https://www.hocm.org>
WA, Pullman, Palouse Discovery Science Center, <https://www.palousescience.net>
WA, Seattle, Pacific Science Center, <https://www.pacificsciencecenter.org>
WA, Spokane, Mobius Discovery Center, <https://mobiusdiscoverycenter.org/>
WA, Walla Walla, The Children's Museum of Walla Walla, <https://www.cmww.org>
WA, Wenatchee, Wenatchee Valley Museum and Cultural Center, <https://www.wenatcheevalleymuseum.org/>
WI, Cable, Cable Natural History Museum, <https://www.cablemuseum.org>
WI, Eau Claire, Children's Museum of Eau Claire, <https://www.childrensmuseumec.com/>
WI, Green Bay, The Children's Museum of Green Bay, <https://www.gbchildrensmuseum.org>
WI, Hudson, Space St. Croix, a STEAM Educational Nonprofit, <https://spacestcroix.org>
WI, Kenosha, Heide Observatory, <https://hawthornhollow.org/observatory/>
WI, Milwaukee, Discovery World Science Museum, <https://discoveryworld.org/>
WI, Milwaukee, Betty Brinn Children's Museum, <https://www.bbcmkids.org/>
WI, Milwaukee, Milwaukee Public Museum - Daniel M. Soref Planetarium, <https://www.mpm.edu/>
WV, Barboursville, Huntington Children's Museum, <https://hcmkids.org/>
WV, Charleston, Clay Center for the Arts and Sciences, <https://www.theclaycenter.org/>
WV, Morgantown, Spark! Imagination and Science Center, <https://sparkwv.org/>
WV, Sun Prairie, Explore Children's Museum of Sun Prairie, <https://www.explorecm.org/>
WY, Casper, The Science Zone, <https://thesciencezone.org/>

Voyage through the Solar System Kit Application Overview

The National Informal STEM Education Network (NISE Network) is pleased to offer 350 free physical Explore Science: Voyage through the Solar System small activity kits to **eligible institutions in the United States**.

This new kit focuses on NASA's ongoing efforts to send future astronauts to the Moon, Mars, and beyond. This physical kit will include all the materials for three hands-on STEM activities designed to complement the NISE Network [Explore Science: Earth & Space toolkits](#) (making this physical kit smaller than past Earth and Space toolkits).

Successful applicants who receive the physical kit will be required to use the activities with local public audience(s) and complete a short online report about this use by November 1, 2023. Please see the requirements section of this overview for further details.

KIT CONTENTS & AUDIENCES

Three hundred and fifty (350) free Explore Science: Voyage through the Solar System 2023 physical kits will be awarded to successful applicants from eligible organizations. Please note:

- Activities are designed for use in children's museums, science centers, science museums, public planetariums and observatories, and NASA visitor centers in the United States.
- Activities are designed for family audiences with a range of experiences appropriate for visitors ages 4 through adult.

The Explore Science: Voyage through the Solar System small activity kit will include:

- professional learning resources
- resources to help prepare for the 2023 and 2024 Solar Eclipses
- three hands-on activities focused on human exploration of the Solar System
- promotional materials about the DIY Sun Science and DIY Solar System apps, which are designed to extend learning at home

In addition to the physical kits, the DIY Sun Science and DIY Solar System apps and digital versions of kit materials will be available for free online to support at-home STEM learning beyond museum walls.

TIMELINE

- **March 2023:** Online application for a free physical kit opens
- **May 15, 2023:** Deadline to submit an application, review of applications begins
- **June 2023:** Notification of award decisions
- **Summer 2023:** Physical kits ship to successful applicants, digital kit available online
- **Fall 2023-Spring 2024:** Awardees use activities with local public audience(s)
- **November 1, 2023:** Required short online report due

ELIGIBILITY

The physical kit activities are designed to complement the NISE Network [Explore Science: Earth & Space toolkits](#).

The physical kit is designed for informal science education, public events, and outreach. To be eligible to receive a physical kit, organizations must be:

- Located in the United States (including US territories)
- Public informal science outreach and education institutions such as:
 - Science museums and science centers
 - Children’s museums
 - Natural history museums
 - Public planetariums and observatories
 - NASA visitor centers
- Priority will be given to institutions that have previously received one or more Explore Science: Earth and Space toolkits from 2017-2020.
 - If you are unsure if your organization has previously received any of the Explore Science: Earth and Space toolkit(s), please see our [list of NISE Network Partners Across the Country](#). This list is alphabetized by State, City, and physical kits received (“kits: Earth & Space” will appear next to any partner who received one or more Earth and Space toolkits).

Please note that K-12 schools, afterschool programs, libraries, parks, and astronomy clubs are **not** eligible to receive physical kits. Consider downloading a digital kit if your organization does not meet eligibility criteria.

DIGITAL KIT

In addition to the physical kits, digital versions of the kit resources will be available online for free download. These materials should be posted to our website by late summer 2023.

To learn more about this project and keep up-to-date with the release of digital resources: <https://www.nisenet.org/voyage-solar-system>

Digital versions of all Explore Science: Earth and Space toolkits are available for free download online: <http://www.nisenet.org/earthspacekit>

APPLICATION PROCESS

Applications for the Explore Science: Voyage through the Solar System small activity kit **must be submitted online through Alchemer (SurveyGizmo) by May 15, 2023:**

<https://survey.alchemer.com/s3/7156306/Voyage-Application>

Preview the application: Please note that it is NOT possible to save your work in the Alchemer application and applications left idle for too long will go blank when you progress to the next screen. Please plan to complete the online application in one session. You may want to write your responses in a Word doc, save, and then cut and paste that information into this application. You may download the application in PDF and Word document formats here:

<https://www.nisenet.org/voyage-solar-system>

SELECTION PROCESS

A total of 350 copies of the Explore Science: Voyage through the Solar System small activity kits will be awarded through a competitive award process.

The NISE Network project team will review all physical kit applications and make awards only to organizations that meet the eligibility criteria. Successful applications will comply with the project requirements, reach local underserved audiences, and help the project achieve geographic diversity. If multiple applications are received from the same geographic location, applicants may be asked to collaborate and/or share resources.

Priority will be given to NISE Network partners who have previously received one or more Explore Science: Earth and Space toolkits from 2017-2020.

Applicants will be informed of award status in June 2023.

REQUIREMENTS

Organizations receiving the Explore Science: Voyage through the Solar System small activity kit are required to:

- 1. Use the activities with local public audience(s):** Use of the kit activities could take place in different locations and in a variety of formats. This includes but is not limited to:
 - o Public events

- o Programs on a museum floor
- o Summer camps
- o Outreach in the community
- o Afterschool programs

If you need more ideas for how to use your kit activities year-round, check out our calendar of celestial events, STEM educational events, and other annual programming for public audiences: <http://www.nisenet.org/seasons>

We also strongly encourage you to collaborate with local volunteer experts. These individuals are a key ingredient to many successful public engagement efforts. Check out our [Working with STEM Experts: A Guide for Educators in Museums and Other Informal Learning Settings](#) for more on how to find, prepare, and work with STEM experts.

Finally, we also suggest collaborating locally to reach underserved audiences. Please see our [Museum & Community Partnerships: Collaboration Guide and additional resources](#) for tips around collaborating with local community groups, chapters of national youth-serving organizations, and many more possible partnership opportunities.

- 2. Complete a short online report by November 1, 2023:** The NISE Network will provide a template for this brief report, which will mainly ask about:
- o How you have already used the kit activities
 - o How you anticipate using the kit activities in the future
 - o Estimated reach

MORE INFORMATION

For project questions and inquiries, please contact Christina Leavell, NISE Network Community Manager: ChristinaMLeavell@gmail.com

ACKNOWLEDGEMENTS

This material is based upon work supported by NASA under award number 80NSSC18M0061. 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).

Explore Science: Voyage through the Solar System Kit Application

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This new kit focuses on NASA's ongoing efforts to send future astronauts to the Moon, Mars, and beyond. This physical kit will include all the materials for three hands-on STEM activities designed to complement the NISE Network [Explore Science: Earth & Space toolkits](#).

The kit will include:

- professional learning resources
- resources to help prepare for the 2023 and 2024 Solar Eclipses
- three hands-on activities focused on human exploration of the Solar System
- promotional materials about the new DIY Sun Science and DIY Solar System apps, which are designed to extend learning at home

The kit will ship tentatively in **Summer 2023**.

Please fill out this application by **May 15, 2023** to be considered for the physical 2023 Explore Science: Voyage through the Solar System kit.

Preview the application: Please note that it is NOT possible to save your work in this online application and applications left idle for too long will go blank when you progress to the next screen. Please plan to complete the online application in one session. You may want to write your responses in a Word doc, save, and then cut and paste that information into this application. You may download the application in PDF and Word document formats here:

<https://www.nisenet.org/voyage-solar-system>

In addition to the physical kits, the app and digital versions of kit materials will be

available for free online to support at-home STEM learning beyond museum walls.

1. Enter the name of a contact person and a shipping address for your kit (no P.O. boxes please).

First Name

Last Name

Job
Title

Organization

Address 1

Address 2

City/Town

State

Alabama

Alaska

American Samoa

Arizona

Arkansas

California

Colorado

Connecticut

Delaware

Federated States of Micronesia

Florida

Georgia

Guam

Hawaii

Idaho

Country

United States

Idaho
Illinois
Indiana
Iowa
Kansas
Kentucky
Louisiana
Maine
Marshall Islands
Maryland
Massachusetts
Michigan
Minnesota
Mississippi
Missouri
Montana
Nebraska
Nevada
New Hampshire
New Jersey
New Mexico
New York
North Carolina
North Dakota
Northern Mariana Islands
Ohio
Oklahoma
Oregon
Palau
Pennsylvania
Puerto Rico
Rhode Island
South Carolina
South Dakota
Tennessee
Texas
Utah
Vermont
Virgin Islands
Virginia
Washington
Washington, D.C.
West Virginia
Wisconsin
Wyoming

Zip

Email Address

Institution Website

Phone Number

2. States beginning with the letter A through L

Please confirm your organization in the pull-down selection below.

Organizations are sorted alphabetically by state, then city, and organization.

If your organization is not listed, please choose "OTHER" at the bottom of the list.

AK, Anchorage, Alaska Museum of Science and Nature
AK, Anchorage, Anchorage Museum
AK, Anchorage, University of Alaska Anchorage
AK, Fairbanks, Fairbanks Children's Museum
AK, Fairbanks, University of Alaska Fairbanks - EarthScope National Office
AK, Fairbanks, University of Alaska Museum of the North
AK, Kenai, Challenger Learning Center of Alaska
AL, Auburn , Auburn University
AL, Birmingham, McWane Science Center
AL, Decatur, Cook Museum
AL, Gadsden, Imagination Place Children's Museum
AL, Huntsville, Sci-Quest, the North Alabama Science Center (CLOSED)
AL, Huntsville, U.S. Space & Rocket Center
AL, Mobile, Gulf Coast Exploreum Science Center
AL, Montgomery, Starbase Maxwell
AL, Normal, Alabama A&M University
AL, Tuscaloosa, Children's Hands On Museum
AL, Tuscaloosa, The University of Alabama
AR, Bentonville, The Amazeum (Children's Museum of Northwest Arkansas)
AR, Blytheville, Delta Gateway Museum
AR, Fayetteville, University of Arkansas
AR, Fayetteville, University of Arkansas, Center for Math and Science Education
AR, Hot Springs, Mid-America Science Museum
AR, Jonesboro, Arkansas State University Museum
AR, Little Rock, Arkansas Discovery Network
AR, Little Rock, Museum of Discovery
AR, Pine Bluff, Arts and Science Center for Southeast Arkansas
AR, Smackover, Arkansas Museum of Natural Resources
AS, Pago Pago, National Marine Sanctuary of American Samoa
AZ, Bisbee, Bisbee Science Exploration & Research Center
AZ, Goodyear, American Chemical Society Local Section - Central Arizona (ACS)
AZ, Mesa, Arizona Museum of Natural History
AZ, Phoenix, Arizona Science Center (ASC)
AZ, Phoenix, Challenger Space Center Arizona
AZ, Prescott, Embry-Riddle Aeronautical University - Prescott Observatory and Jim & Linda I
AZ, Prescott, the spot...a Child's Museum (CLOSED 2016)

WI, Stevens Point, University of Wisconsin - Stevens Point
WI, Wausau, Planetarium of the Wausau School District
WV, Huntington, Marshall University - West Virginia Science Adventures
WV, Morgantown, Health Sciences and Technology Academy/Morgantown High School
WV, Morgantown, NanoSAFE, West Virginia University
WV, Morgantown, Spark! Imagination and Science Center
WV, Morgantown, West Virginia University Extension Service
WY, Casper, Natrona County School District - Casper Planetarium
WY, Casper, The Science Zone
WY, Cheyenne, Wyoming State Museum
WY, Jackson, Jackson Hole Childrens Museum- The Club House
WY, Lander, Lander Children's Museum
WY, Riverton, Central Wyoming Children's Center for Art, Technology & Science (CATS)
WY, Thermopolis, Wyoming Dinosaur Center
OTHER

Organization Information

3. Which best describes your organization?

- ☐ museum / science center / informal science education organization
- ☐ college / university
- ☐ other (please describe)

4. If your organization is a museum, please check boxes to indicate all types that apply:

- ☐ science or technology museum / science center
- ☐ children's museum
- ☐ art or history museum
- ☐ natural history museum or nature center
- ☐ emerging or developing museum
- ☐ planetarium
- ☐ observatory
- ☐ NASA Visitor Center
- ☐ other (please specify)

☐ N/A

5. **Budget:** What is the annual operating budget of your museum or organization?

- ☐ under \$250,000
- ☐ \$250,000 - \$500,000
- ☐ \$500,000 - \$1 million
- ☐ \$1 - \$2.5 million
- ☐ \$2.5 - \$6.5 million
- ☐ over \$6.5 million
- ☐ other - comment about annual operating budget (if needed)

6. Setting: Please categorize your organization's location.

- ☐ urban - large city (> 250,000)
- ☐ urban - mid-sized city (100,000 - 250,000)
- ☐ urban - small city (< 100,000)
- ☐ suburban
- ☐ rural

7. Annual On-Site Attendance: How many visitors does your organization reach each year **at your facility**?

If you do not serve on-site visitors at your facility, please enter zero.
Please enter numbers only.

8. Annual On-Site Attendance Comments:

Please briefly describe how your organization determines annual on-site attendance.

For example, do you use ticket sales, gate entrance, program registration, visitor logs, staff estimates, or other ways to estimate?

(Limit: 300 words)

9. Annual Off-Site Attendance: How many visitors does your organization reach each year at locations **outside your facility**?

If you do not serve off-site visitors or do not have an estimate for number of people served annually, please leave blank.

Please enter numbers only.

10. Annual Off-Site Attendance Comments:

Please briefly describe how your organization determines annual off-site attendance.

For example, do you use program registration, visitor logs, staff estimates, or other ways to estimate?

(Limit: 300 words)

11. Audiences: Please categorize the underserved audiences you hope to reach through your event(s) (please check all that apply).

☐ racial and ethnic minorities / communities of color

☐ American Indian / Alaska Native

☐ girls

☐ low-income / lower socio-economic status

☐ Spanish-speaking audiences

☐ other non-native English speakers

☐ disabled / differently abled

☐ rural

☐ inner city

☐ at-risk youth

☐ other underserved audiences

*

☐ N/A

12. How do you plan to integrate these resources into your current programming? (please check all that apply)

- ☐ ongoing programming at our facility
- ☐ collaborations with local youth service organizations
(4-H, Boys & Girls Clubs of America, Boy Scouts of America, Girl Scouts, Girls Inc., PTA, the Y, YWCA, etc.)
- ☐ family science nights
- ☐ afterschool programming
- ☐ special one-time events
- ☐ community events
- ☐ camps (e.g. summer camp, holiday camp, day camp)
- ☐ library outreach
- ☐ K-12 school outreach
- ☐ home school programs
- ☐ adult-only events
- ☐ celestial events (such as star gazing, meteor showers, moon viewing, etc.)
- ☐ other
- ☐ N/A

*

Kit use agreement

Requirements

If you are selected to receive a kit, you are expected to:

1. Use the activities with your local public audience(s) - this use could take place in different locations and formats such as events, programs on the museum floor, camps, outreach, afterschool programs, etc.
2. Complete a short online report by **November 1, 2023** about how you have already used the kit activities and how you anticipate using them in the future. The NISE Network will provide a template for this brief report.

If you find that you cannot use the kit materials, you may be asked to return them or distribute them to another institution.

13. Do you agree to these terms?

- ☐ Yes
- ☐ No

Voyage through the Solar System

2023 Report



Part 1 - Contact Information

Thank you for participating in the NISE Network's 2023 Voyage through the Solar System project!

We ask that you **please fill out this report as best you can.**

The report asks about your public engagement efforts in 2023, and then asks about your plans for 2024.

All partners receiving physical kits are required to report to the NISE Network about their experiences through this online survey. In turn, the NISE Network then is required to share summaries of this data with our funders.

As you fill out this report, some of the questions will also ask about other NISE Network kits with Earth and space content in addition to the Voyage through the Solar System kit.

- **2023 Voyage through the Solar System kit**
<https://www.nisenet.org/solarsystem-kit>
- **2017, 2018, 2019, and 2020 Explore Science: Earth & Space kits**
<https://www.nisenet.org/earthspacekit>
- **2020 Moon Adventure Game**
<https://nisenet.org/moongame>

Important Information About Filling Out the Report:

The report takes approximately 30 minutes to complete. Please note that it is NOT possible to save your work in the Alchemer (formerly SurveyGizmo) online form and return for additional edits. Reports left idle for too long will go blank when you progress to the next screen. Please plan to complete the online report in one session. You may want to write your responses in a Word doc, save, and then cut and paste that information into this report; you may download in Word Document format or PDF format from: <https://www.nisenet.org/voyage-solar-system>

If you have any questions about this report, please contact Christina Leavell, NISE Network Community Manager: Christina.Leavell@asu.edu

Contact Information

1) Your Contact Information:

First Name: _____

Last Name: _____

Job Title: _____

Organization: _____

Address 1: _____

Address 2: _____

City/Town: _____

State **(DROPDOWN MENU)**

Country: _____

Zip: _____

Email Address: _____

Organization Website: _____

Phone Number: _____

2) For organizations located in States beginning with the letter A through L:

Please confirm your organization in the pull-down selection below.

Organizations are sorted alphabetically by state, then city, and organization.

If your organization is not listed, please choose "OTHER" at the bottom of the list.

(DROPDOWN MENU)

3) For organizations located in States beginning with the letter M through Z:

Please confirm your organization in the pull-down selection below.

Organizations are sorted alphabetically by state, then city, and organization.

If your organization is not listed, please choose "OTHER" at the bottom of the list.

(DROPDOWN MENU)

Overall Museum Attendance

4) Annual On-Site Attendance:

How many visitors did your organization estimated to reach in 2023 **at your facility**?

You may use data from sources such as ticket sales, gate entrance, program registration, visitor logs, and staff estimates.

If you do not serve on-site visitors at your facility, please enter zero.
Please enter numbers only.

5) Annual Off-Site Attendance:

How many in-person participants is your organization reach estimated to reach in 2023 at locations **outside your facility**? (Not including virtual or online attendance)

You may use data from sources such as program registration, visitor logs, or staff estimates.

If you do not serve off-site participants, please enter zero.
Please enter numbers only.

Public Engagement in 2023

6) Use of Any NISE Network Earth & Space kits

Please tell us how often your organization has incorporated ANY of the NISE Network kits that feature Earth and space science content during 2023.

Please base your response on the use of any of the following NISE Network materials:

- 2023 **Voyage through the Solar System kit**
<https://www.nisenet.org/solarsystem-kit>
- 2017, 2018, 2019, and 2020 **Explore Science: Earth & Space kits**

<https://www.nisenet.org/earthspacekit>

- **2020 Moon Adventure Game**

<https://nisenet.org/moongame>

[illegible]

lesson activities within college courses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
longer term display of materials in public spaces (e.g. within exhibits, on the museum floor, on a table)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
celestial events (e.g. star gazing, meteor showers, moon viewing, eclipses, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7) DIY Sun Science and DIY Solar System Apps

The NISE Network has developed the DIY Solar System app and DIY Sun Science app, which are available for iPhones/iPads and Android devices, in both English and Spanish.

We'd like to ask you a few questions about the apps.

- DIY Sun Science app <https://nisenet.org/diy-sun-science-app>
- DIY Solar System app <https://nisenet.org/diy-solar-system-app>

(Please check all that apply)

☐ I am aware of the app(s)

☐ I have download the app(s)

☐ We have promoted the DIY app to visitors in some way (in person, on social media, etc.)

8) Use of Materials During 2023

Please briefly describe your Earth and space science in-person, virtual, or other public programming during 2023 (including the annular solar eclipse). Include the types of public engagement activities you offered, and how you worked with any collaborators, and audiences reached.

Keep in mind we would like to hear any specific stories or anecdotes about your experiences or the overall impact on your organization.

Please base your response on the use of any of the following NISE Network materials:

- **2023 Voyage through the Solar System kit**

<https://www.nisenet.org/solarsystem-kit>

- **2017, 2018, 2019, and 2020 Explore Science: Earth & Space kits**

<https://www.nisenet.org/earthspacekit>

- **2020 Moon Adventure Game**

<https://nisenet.org/moongame>

(Maximum: 300 words)

Earth & Space Public Engagement

9) Audiences During 2023

Please identify the underserved audiences you reached through your Earth & Space public engagement in 2023.

Please base your response on the use of any of the following NISE Network materials:

- **2023 Voyage through the Solar System kit**

<https://www.nisenet.org/solarsystem-kit>

- **2017, 2018, 2019, and 2020 Explore Science: Earth & Space kits**

<https://www.nisenet.org/earthspacekit>

- **2020 Moon Adventure Game**

<https://nisenet.org/moongame>

(Please check all that apply)

☐ racial and ethnic minorities / communities of color

- ☐ American Indian / Alaska Native
 - ☐ girls
 - ☐ low-income / lower socio-economic status
 - ☐ Spanish-speaking audiences
 - ☐ other non-native English speakers
 - ☐ disabled / differently abled
 - ☐ rural
 - ☐ inner city
 - ☐ at-risk youth
 - ☐ other underserved audiences: _____ *
 - ☐ N/A
-

10) Collaborations During 2023

Please note the kinds of collaborations with individuals or organizations you have that support your Earth & space science public engagement.

(Please check all that apply)

- ☐ early childhood programs
 - ☐ K-12 schools and teachers
 - ☐ youth-serving organizations (scouts, afterschool programs, 4-H etc.)
 - ☐ community groups and/or faith-based organizations
 - ☐ museums or libraries
 - ☐ college students
 - ☐ college faculty and/or staff
 - ☐ NASA scientist or educator
 - ☐ Earth and space science enthusiasts or amateur astronomy club members
 - ☐ Solar System Ambassador
 - ☐ other - please describe: _____
-

Plans for 2024

11) Public Engagement Plans in 2024

How does your organization plan to use any NISE Network Earth and space science public engagement materials in 2024?

Please base your response on the use of any of the following NISE Network materials:

- **2023 Voyage through the Solar System kit**
<https://www.nisenet.org/solarsystem-kit>
- **2017, 2018, 2019, and 2020 Explore Science: Earth & Space kits**
<https://www.nisenet.org/earthspacekit>
- **2020 Moon Adventure Game**
<https://nisenet.org/moongame>

	Yes	No	Not sure
cart demonstrations / brief table top activities	()	()	()
longer museum programs (e.g. forums, classes, labs, science club)	()	()	()
K-12 school outreach (e.g. classes, field trips, science fair)	()	()	()
afterschool programming	()	()	()
special events (e.g. space events, Earth science events, family nights, festivals)	()	()	()
camps (e.g. summer camp, holiday camp, day camp)	()	()	()

local youth service organizations outreach (4-H, Boys & Girls Clubs of America, Boy Scouts of America, Girl Scouts, Girls Inc., PTA, the Y, YWCA, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
library outreach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
home school programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
adult-only events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
lesson activities within college courses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
longer term display of materials in public spaces (e.g. within exhibits, on the museum floor, on a table)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
celestial events (e.g. star gazing, meteor showers, moon viewing, eclipses, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12) Total Solar Eclipse April 8, 2024

Do you plan to use any NISE Network materials in advance or during the April 8, 2024 Total Solar Eclipse?

Please note that the NISE Network has a compilation of solar eclipse public engagement materials available online: <https://nisenet.org/solareclipse>

☐ Yes

☐ No

☐ No sure

13) Plans in 2024

Please briefly describe your Earth and space science in-person, virtual, or other public programming plans for 2024.

Please base your response on the use of any of the following NISE Network materials:

- **2023 Voyage through the Solar System kit**
<https://www.nisenet.org/solarsystem-kit>
- **2017, 2018, 2019, and 2020 Explore Science: Earth & Space kits**
<https://www.nisenet.org/earthspacekit>
- **2020 Moon Adventure Game**
<https://nisenet.org/moongame>

(Maximum: 300 words)

Kit Report Complete

Thank you for taking the time to fill out this report!

Your 2023 Voyage through the Solar System report is now complete. You should receive an automated email from Alchemer (formerly SurveyGizmo) with a PDF of your completed report attached. You may need to check your email spam filter for the automated email.

If you have any questions about this report or experienced any problems with the kit, please contact Christina Leavell, NISE Network Community Manager: Christina.Leavell@asu.edu

This material is based upon work supported by NASA under grant numbers 80NSSC21M0082 and 80NSSC18K1219 and cooperative agreement award numbers NNX16AC67A and 80NSSC18M0061.

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).
