EXPLORE SCIENCE: VOYAGE THROUGH THE SOLAR SYSTEM

Quick-start Event Planning Guide

Introduction

Welcome to the Explore Science: Voyage through the Solar System Quick-start Event Planning Guide! In collaboration with NASA, the National Informal STEM Education Network has created this kit of hands-on activities designed to engage visitors in NASA's continuing pursuit of human exploration of the Moon, Mars, and beyond. In this guide, you will find information about planning an event, including a suggested event planning timeline, best practices for working with STEM experts, and a collection of training resources for activity facilitators.

NISE Network

The National Informal STEM Education Network (NISE Network) advances learning opportunities across the United States by bringing cutting-edge STEM research to museum exhibits and programs, improving the practices of educators and scientists, and creating lasting, valuable relationships among individuals and organizations. Hundreds of partner organizations use NISE Network resources to engage diverse audiences in their communities, including groups that are traditionally underserved by STEM institutions and underrepresented in STEM fields.

Our products are created through an iterative, collaborative process that involves scientists, informal science educators, and targeted public audiences. As NISE Network partners participate in project activities, they adapt and improve Network materials, generating new ideas and learning. The nisenet.org website is an online digital library of public educational products and tools designed for educators and scientists.

Explore Science: Voyage through the Solar System Kit

Three hundred and fifty Explore Science: Voyage through the Solar System physical kits consisting of hands-on activities and professional development materials were awarded to successful applicants from eligible organizations across the country. The activities work best for family audiences, with a range of experiences appropriate for participants ages four through adult.

Content & Target Audiences

The Explore Science: Voyage through the Solar System kit materials have been designed to engage participants in the science of solar system exploration. The hands-on activities in this kit will facilitate conversations about the value and challenges of space exploration and research. Activities are designed for use in multiple venues of informal STEM learning with a target audience of families with young children.

Kit Use

The activities can be used throughout the year during any number of STEM-themed events and in a variety of informal learning contexts. Two events of high relevance are the solar eclipses in 2023 and 2024. To learn more about these upcoming eclipses, visit https://www.nisenet.org/solareclipse.

Digital Toolkits

In addition to the physical toolkits, digital versions of the toolkit will be available online as a free download at https://www.nisenet.org/voyage-solar-system.

DIY Sun Science and DIY Solar System Apps

A series of DIY mobile apps are available for learners to download onto their own devices. The DIY Sun Science and DIY Solar System apps come complete with instructions for activities designed to do at home alongside in-app educational games and activities to help extend learning beyond the museum walls.

Event Planning Timeline

One option for engaging visitors with Explore Science: Voyage through the Solar System is with a special event celebrating human exploration of the Moon, Mars, and beyond! For an in-depth guide to planning events, see the *Explore Science: Earth & Space Event Planning and Promotion Guide* from the 2020 Explore Science: Earth & Space Toolkit. The event planning guide and additional Earth & Space resources from this toolkit are available at https://nisenet.org/earthspacekit.

As a quick-start guide to event planning, NISE Network suggests the following timeline:

One to three months before your event

- ❏ Make contact with the individuals and institutions that might be interested in organizing a solar system event in your community. Please see the section in this guide on working with STEM experts.
- ❏ Schedule a kickoff meeting to organize your event. Include both museum staff and collaborating experts. Topics for the agenda might include:
    - What are your goals for holding an Explore Science: Voyage through the Solar System event?
    - Who is your target audience?
    - What kinds of events and activities would reach this audience and meet your goals?
    - Who will lead the planning of the event? Who else will be involved?
    - How will you communicate with your collaborators?
    - What dates will you hold your event?
    - Do you need funding to support the event? If so, where will it come from?
- ❏ Choose a date and add your event to your institutional calendars. Be sure to keep celestial events and annual STEM events in mind when choosing an event date.
- ❏ Plan your event. Your planning process might include creating:
    - A brief description of the event (type of activities, dates, times, location, collaborators)
    - A budget (and local fundraising plan, if necessary)
    - An outline of the event goals (and a plan for evaluating how well the event meets the goals)
    - A list of tasks and notes of who is responsible for each task
    - A schedule with the major milestones for preparation
    - A marketing strategy
- ❏ Become familiar with the materials in the Explore Science: Voyage through the Solar System kit.
- ❏ Begin promoting your event. Coordinate efforts between your own institution and your collaborators.

- ❏ Talk with collaborators about potential sources of staff and volunteers for the event.
- ❏ Choose a date and location for your training session(s) for staff, volunteers, and collaborators, and invite all appropriate event participants. You may want to hold a training session roughly a week in advance and offer another session immediately before your event for volunteers who may attend that day.
- ❏ Let volunteers and collaborators know in advance about available training materials, such as online activity training videos and online workshop opportunities. A summary email including a list of all resources can be a valuable reference for participants leading up to and immediately before the event.

At least one month before your event

- ❏ Review your plans with your facility manager and/or health and safety officer. Many facilities have guidelines or restrictions that could affect the logistics of your event or the demonstrations and activities you can include. You might ask about:
    - Restrictions related to use of water, open flames, chemicals, or hanging or suspended objects if you are hoping to include any of these in your events
    - Parking for visitors and your volunteers/collaborators
    - Cleaning and sanitation service schedules
    - Security needs
    - Outdoor activity needs
- ❏ Ensure you have adequate staff and volunteers for your event.
- ❏ Draft an activity floor plan. Keep in mind that some activities need water, some can be messy, some work best in a dimmer space, and some are better with a place for visitors to sit down.

A few weeks before your event

- ❏ Continue to promote your event.
- ❏ Consider creating signs or handouts listing the activities you're offering, as well as their times and locations.
- ❏ Create additional tabletop signs for activities that you may offer alongside the activities contained in the toolkit.
- ❏ Do a test run of the activities.
    - ❏ Prepare for staff and volunteer training session(s).
    - ❏ Make final preparations for your event (staffing, supplies, floor plan, schedule, and evaluation). Some activities may require advance preparation, so be sure to allow enough time to prepare materials prior to your event.

The week of your event

- ❏ Hold staff/volunteer training session(s).
- ❏ Continue to promote your event.

- ❏ Hold your Explore Science: Voyage through the Solar System event!

After your event

- ❏ Debrief on your event with your planning team. Identify elements of your event that were successful, as well as things you might want to change next time.
- ❏ Document your event for your future use. Save copies of programs, posters, and any newspaper or media coverage of your event.
- ❏ Thank your collaborators, sponsors, and volunteers.
- ❏ Discuss future plans with collaborators and colleagues. Choose an event date for next year and get the date on relevant community and organizational calendars.

Working with STEM Experts

We strongly encourage you to collaborate with local experts consisting of space science professionals and science enthusiasts in your area. For an in-depth guide to working with experts, see *Working With Experts: A Guide for Educators in Museums and Other Informal Learning Settings.* You can find this guide and recorded webinars online at https://www.nisenet.org/working-with-experts.

Volunteer networks focused on astronomy and space include: 1) the Solar System Ambassadors Program (SSA), 2) the Night Sky Network, and 3) AAS Astronomy Ambassadors. These volunteer networks can be searched by state and city to find potential volunteers near you. Local colleges and universities can also provide expertise in Earth and space sciences.

1. The **Solar System Ambassadors Program (SSA)** is a public outreach program designed to work with motivated volunteers across the nation. These volunteers communicate the excitement of the Jet Propulsion Lab's (JPL) space exploration missions and information about recent discoveries to people in their local communities. There are 700 Ambassadors in 50 states, Washington DC, Puerto Rico, US Virgin Islands, and Guam. Volunteer ambassadors bring the excitement of space to the public. Ambassadors are space enthusiasts from various walks of life who are interested in providing greater service and inspiration to the community at large. https://solarsystem.nasa.gov/solar-system-ambassadors/directory/

2. The **Night Sky Network** is a nationwide coalition of amateur astronomy clubs bringing the science, technology, and inspiration of NASA's missions to the general public. Night Sky Network members share their time and telescopes to provide you with unique astronomy experiences at science museums, observatories, classrooms, and under the real night sky.
https://nightsky.jpl.nasa.gov/index.cfm

3. **AAS Astronomy Ambassadors:** The **American Astronomical Society (AAS)**, in partnership with the Astronomical Society of the Pacific (ASP), members of the Center for Astronomy Education (CAE), and other organizations active in science education and public outreach (EPO), has launched a series of professional development workshops and a community of practice designed to help improve early-career astronomers' ability to effectively communicate with students and the public. Called "Astronomy Ambassadors," the program provides mentoring and training experiences for young astronomers, from advanced undergraduates to new faculty. It also provides access to resources and a network of contacts within the astronomy EPO community. https://aas.org/outreach/roster-aas-astronomy-ambassadors

4. **Colleges and Universities:** Many colleges and universities have astronomy departments. Others may have clubs or local chapters of professional societies. Once you connect with a faculty or staff member, they should be able to also suggest undergraduate and graduate students who could volunteer at your event.

Training Resources

The Explore Science: Voyage through the Solar System kit includes many training resources that will help your staff and volunteers feel comfortable engaging public audiences in the topic of space exploration. All of the resources listed below are also available online at http://www.nisenet.org/voyage-solar-system.

- Activity overview presentation and notes for staff and volunteers, including a project orientation and details about the educational products
- Facilitator guides for each activity
- Training videos for all activities
- Edu-Cathalon: Facilitation training video https://www.nisenet.org/catalog/educathalon-facilitation-strategies
- Tips for leading hands-on activities https://www.nisenet.org/catalog/explore-science-tips-leading-hands-activities
- The NISE Network has created a wide variety of professional development tools, guides, workshops, and training materials as resources designed for educators and scientists to improve their capacity to engage the public in current science and technology. http://www.nisenet.org/About_Professional_Development

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