

Getting the most out of your Sun, Earth, Universe exhibition



El ardiente bucle de fuego en esta imagen del Sol en la **ULTRAVIOLETA EXTREMA** es una explosiva ráfaga de energía y de partículas llamada **EYECCIÓN DE LA MASA CORONAL**.

What does the Sun look like up close?
explorescience.org/sun
¿Cómo es el Sol de cerca?

See the Sun's extremes in different light

Every 11 years the Sun's magnetic field, releasing enormous amounts of energy into space, this is called solar minimum. When entering solar minimum, the Sun heats and two energy emissions twigs up twice this natural cycle and a solar storm.

INFRARED LIGHT
Solar minimum



VISIBLE LIGHT
Solar minimum



Luz INFRARROJA
Mínimo solar

THE ELECTROMAGNETIC SPECTRUM



NISE
NATIONAL INFORMAL
STEM EDUCATION
NETWORK

Getting the most out of your
Sun, Earth, Universe exhibition

Presenters

- **Ethan Kruszka**, Science Museum of Minnesota
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- **Emily Maletz**, Emily Maletz Design,
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- **Brittney Kugler**, The Discovery Network
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- **Tim Rhue II**, Space Telescope Science Institute
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- **Jason Craig**, Jet Propulsion Laboratories
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Getting to know the
Sun, Earth, Universe
Host Resources

Chapter 2: Introduction & Description



- Background and Overview
- Exhibition Descriptions
Component Descriptions
- Display and Ownership
Commitments

Chapter 3: Technical Manual



- Installation Instructions
- Suggested Floorplans
- Maintenance & Troubleshooting
- Hardware List

Chapter 4: Museum Educator Guide



- Guiding Frameworks and Learning Objectives
- NASA educator resources
- Hands-on Activities
- Training Staff and Volunteers
- Special Event Planning

Chapter 5: K-12 Teacher Field Guide



- Next Generation Science Standards
- Science Literacy Benchmarks AAAS
- Pre-visit prompts
Post-visit questions
- Onsite Worksheets

Chapter 6: Development Process & Audiences



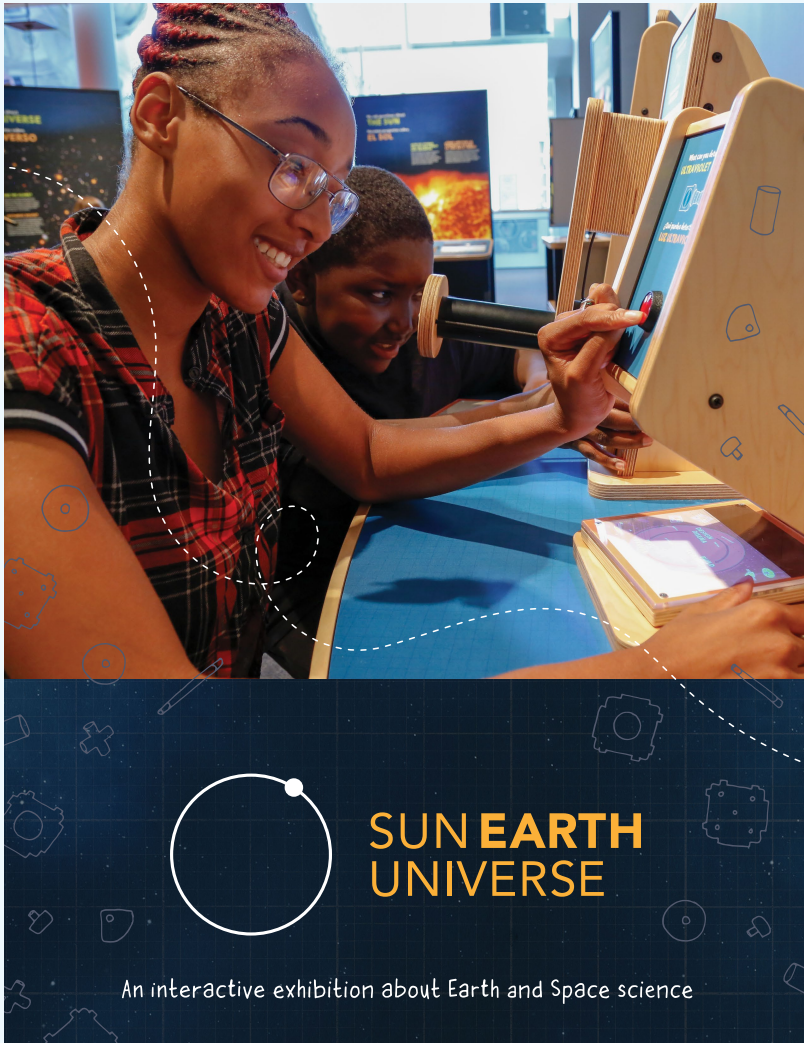
- Development Process
- Learning, Engagement and Design Frameworks
- Universal Design Approach
- Bilingual Approach

Chapter 7: Promotional & Marketing

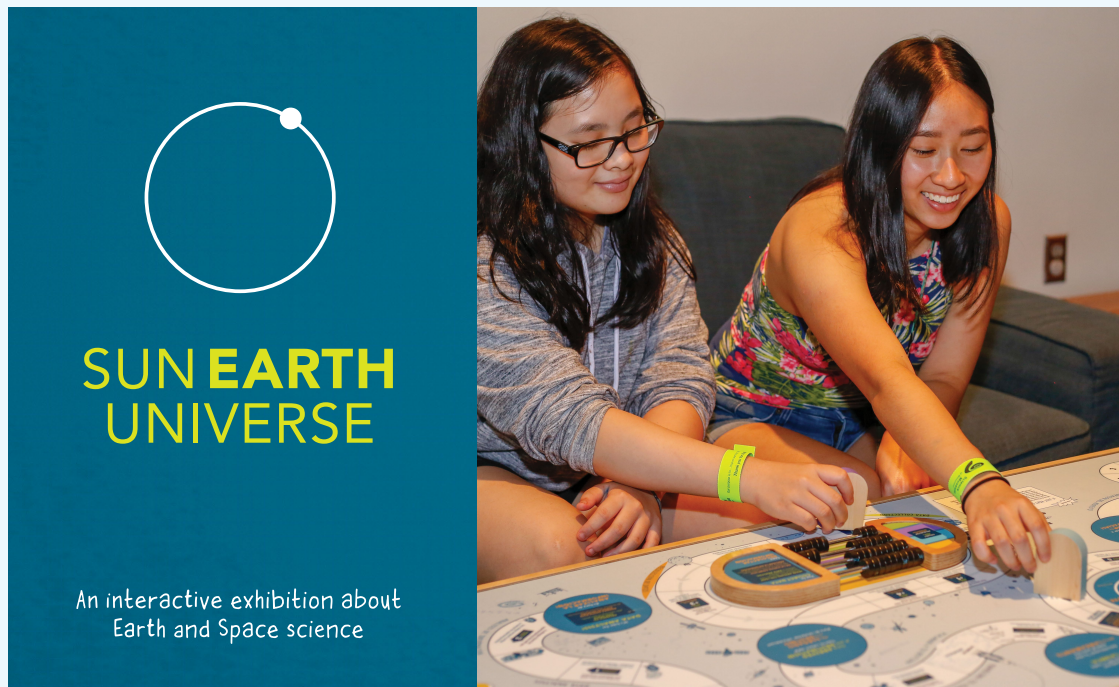


- Logos
- Style Guide
- Promotional Videos and Photos
- Customizable Ads

Customizable Ads



Customizable Ads



Chapter 8: Signage & Graphics

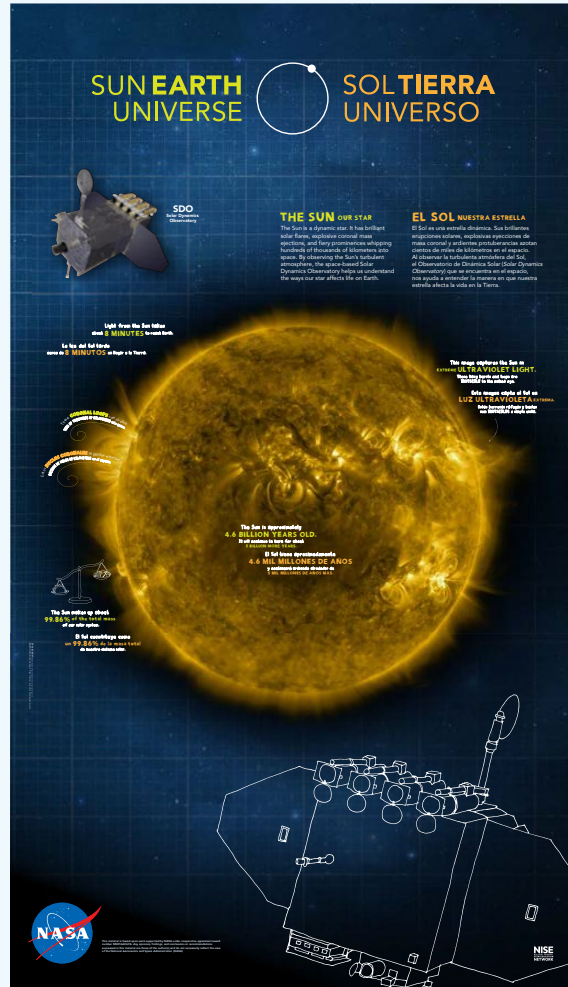


- Signage
- Image Credits and Sources

Exhibition Graphics

We ask questions about the Sun

EXTERIOR PANEL



47 x 82 inches

INTERIOR PANEL AND INTERACTIVE RAIL

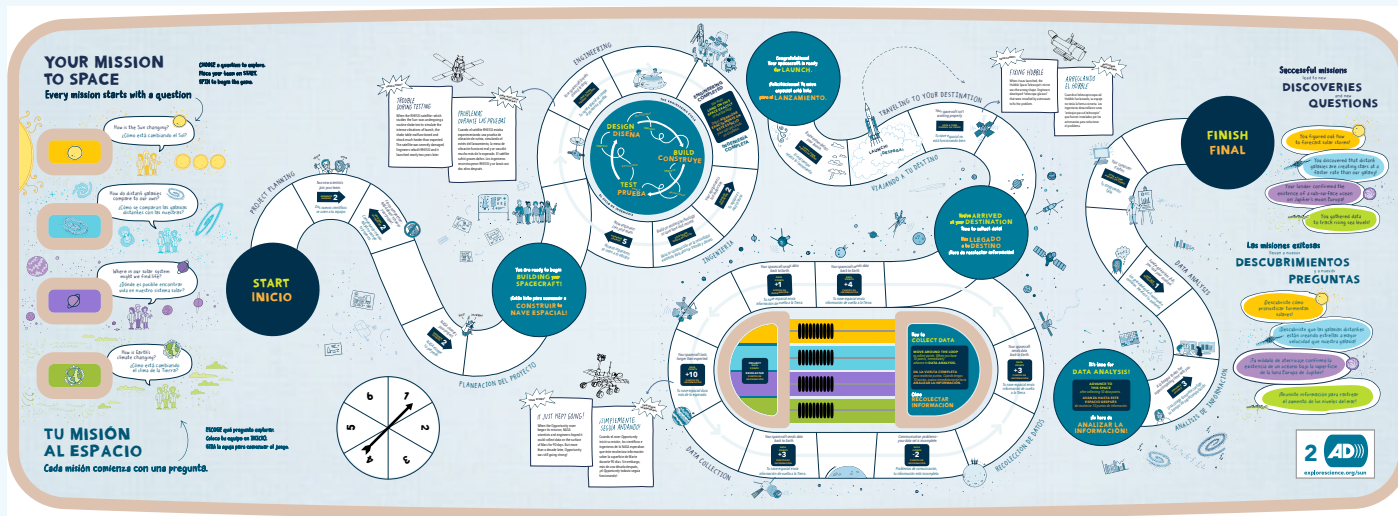


Panel: 47 x 51 inches
Rail graphic: 47 x 17.5 inches

Exhibition Graphics

Your Mission to Space board game

TABLE SURFACE
(drawings to be added before production)



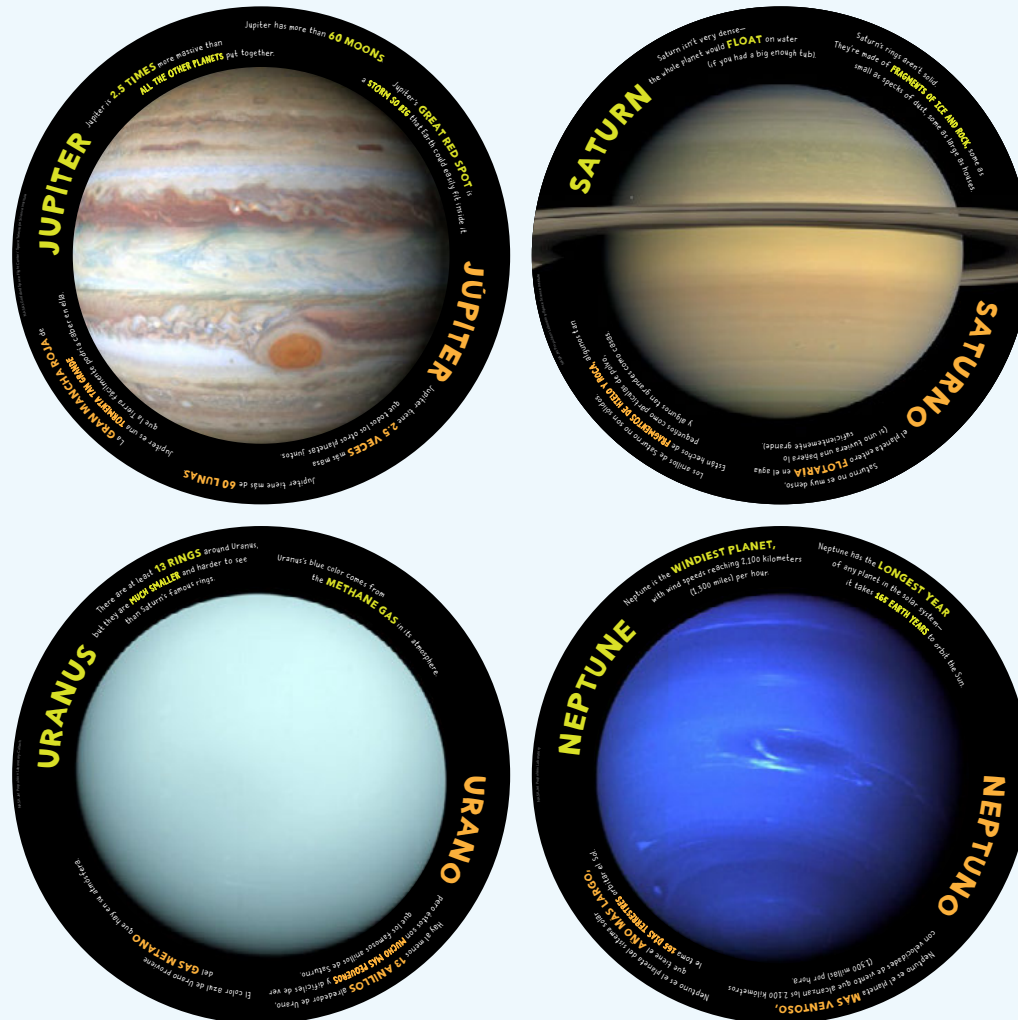
59 x 21.5 inches



Playing pieces

Exhibition Graphics

Solar system stools



11.5 inch circles

Chapter 9: Exhibition Expansion Ideas



- ViewSpace
- NASA's Eyes
- NASA Images, Videos and Visualizations
- Experts
- Current Events / Visitor Feedback Board

Fresh Looks

A look at *Sun, Earth, Universe*
at various partner sites

Port Discovery Children's Museum



Port Discovery Children's Museum



The Montshire Museum of Science



The Montshire Museum of Science



The Montshire Museum of Science



The Montshire Museum of Science



The Montshire Museum of Science



The Montshire Museum of Science



Powerhouse Science Center



Powerhouse Science Center



Powerhouse Science Center



Powerhouse Science Center



Powerhouse Science Center



The Discovery Network: A Model of Resource Sharing

Brittney Kugler

The Discovery Network

bkugler@museumofdiscovery.org



The Discovery Network: A Model of Resource Sharing

Brittney Kugler, Education Manager

DISCOVERY NETWORK HISTORY

- Initiated in 2006 with funding from the Donald W. Reynolds Foundation
- Museum consortium, MOD serving as hub
- More than \$14 million has been awarded from the Reynolds Foundation and other donors over the years
- Changed our name and opened doors for new members in July 2016



discovery
network

DISCOVERY NETWORK

PROGRAM OF MUSEUM OF DISCOVERY

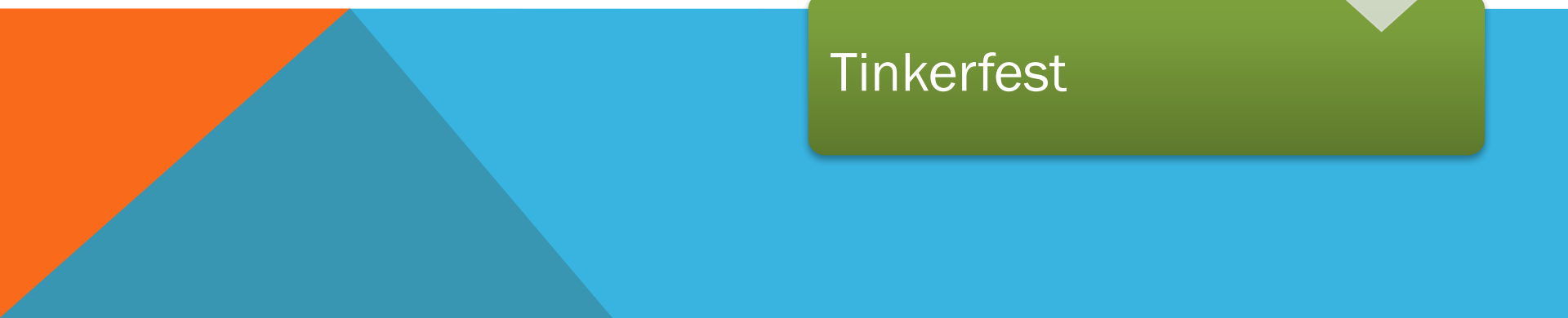
Professional
development

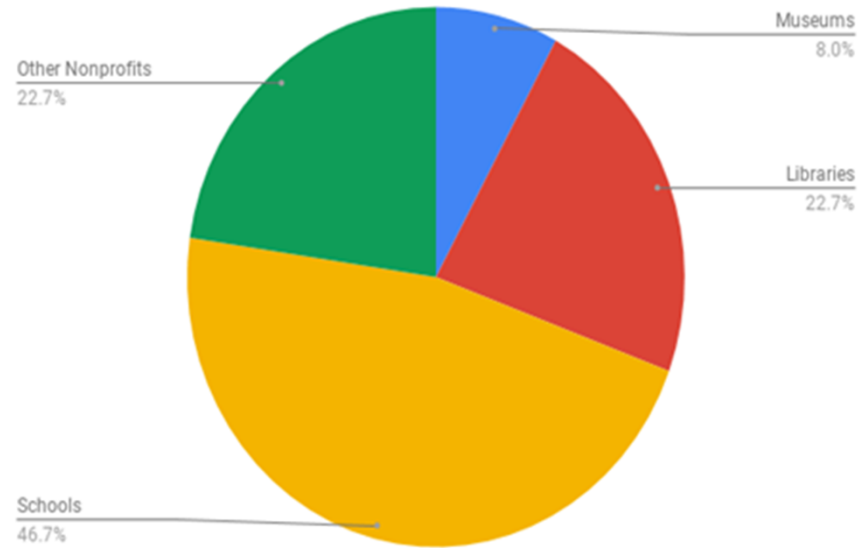
STEAM Kits with
training

STEM Excellence
Pathway

Traveling Exhibits

Tinkerfest





22 members
76 sites in Arkansas and
exhibits in other states

8% Museums
22.7% Libraries
22.7% Other Nonprofits
46.7% Schools



- Builds community support around making and tinkering
- Venue for local makers and artists and STEM businesses
- Museum of Discovery hosted pilot event in August 2012
- 35 events held to date in Arkansas/Texas/Oklahoma, Ohio, Nebraska
- Shared learned ideas and activities from NISENet meetings and events

- Stop Motion Animation
- MakeyMakey
- Circuit Blocks
- Chain Reaction
- **Tiny Drawings**
- Fused Plastic
- Lego Art Bots
- Arduino
- **And NISE Network kits**

STEAM KITS



How do we find places for small exhibits?

We do tons of networking!!

- Set up booths at conferences and do a lot of presentations –
 - AR State Library Association
 - University STEM Centers
 - AR STEM Coalition and Educational Cooperatives
 - AR Museums Association
 - Southeastern Museums Conference
 - AR School Board Association
 - AR Computer Science Teachers
 - Chambers of Commerce
 - Art Links Conference
 - AAM
 - AR Association of Educational Administrators– all school districts, community and professional organizations
 - Leadership classes
 - military bases

Look for Unexpected Partnerships

- Mississippi County Economic Opportunity Commission
 - Serving 16 Head Start Centers
 - Delta Gateway Museum
- Corporate connections – Nucor Steel in Blytheville
- Girl Scouts STEAM Center



Conway Chamber of Commerce – Local Businesses – Schools - Network

- Training for 30 schools
- Exhibits in satellite location in Conway
- Community event



NISE Net Exhibits and Kits

- A service the Discovery Network provides for no fees
- Great for leveraging partnerships
- Small exhibits fit less traditional exhibit spaces, like schools, libraries and events like the Jacksonville Air Force Base Air Show or conference exhibitor showrooms



ViewSpace

Tim Rhue II
Space Telescope Science Institute
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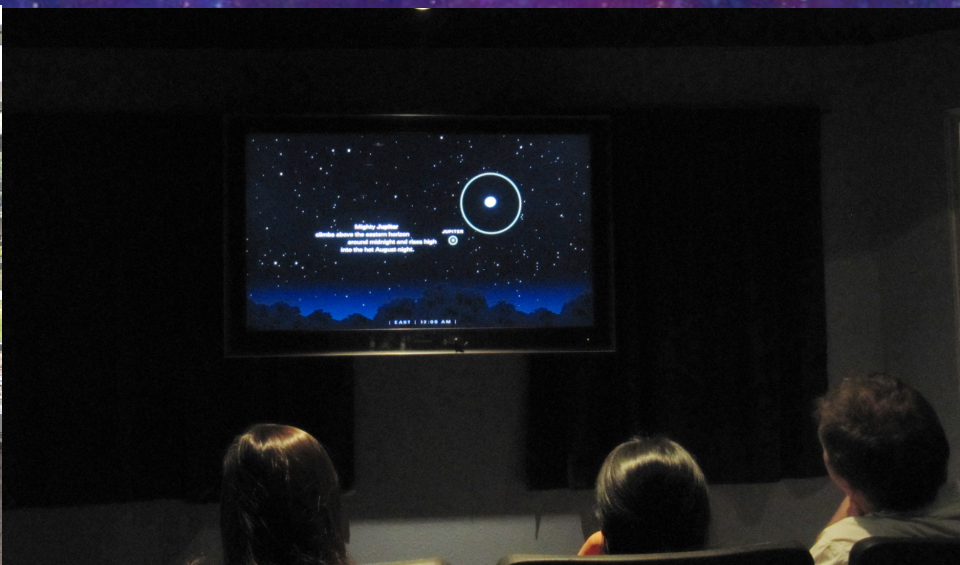
NASA'S UNIVERSE OF LEARNING

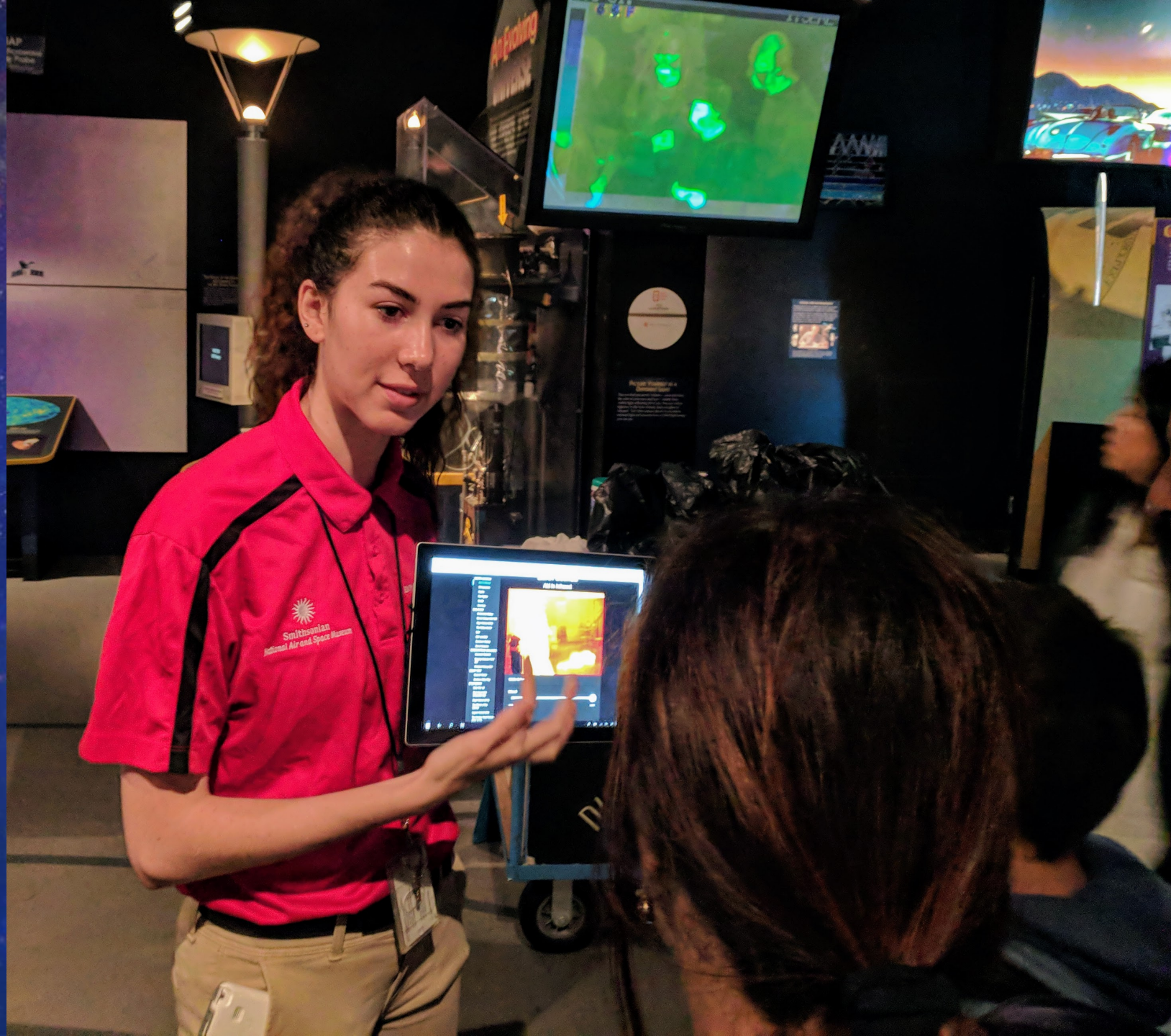
**Getting the Most of Your *Sun, Earth,*
Universe Exhibition**

February 14, 2019

ViewSpace

**Timothy Rhue II
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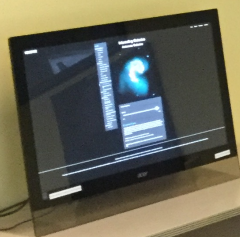
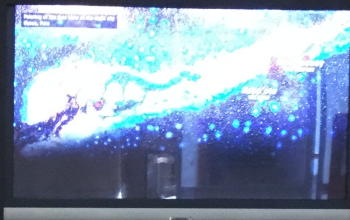




Step into

ViewSpace

...the Latest Breaking News
From Around The Universe







Unveiling the Invisible Universe

See What the Universe Looks Like In a Different Light

The human eye can only see visible light, but objects give off a variety of wavelengths of light. To see an object as it truly exists, we would ideally look at its appearance through the full range of the electromagnetic spectrum. Telescopes show us objects as they appear emanating different energies of light with each wavelength conveying unique information about the object. Explore the hidden universe through the tabs below. Manipulate the interactive sliders to shift your view across the different parts of the electromagnetic spectrum. Adapted from Cool Cosmos by IPAC, with additional contributions from Bruno Meier and Miguel Meier (Photo).

The Electromagnetic Spectrum



Explore the wonders of the light spectrum by selecting an image and using the sliding bar to adjust the visible wavelength.

Infrared and X-ray imaging allow us to view more than the human eye is capable of seeing on its own.

Play with the images using the available filters. What changes as you shift from the visible to the invisible spectrum?



ViewSpace.org



<https://www.universe-of-learning.org/>

This product is based upon work supported by NASA under award number NNX16AC65A to the Space Telescope Science Institute, working in partnership with Caltech/IPAC, Jet Propulsion Laboratory, Smithsonian Astrophysical Observatory, and Sonoma State University.

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



NASA's Eyes

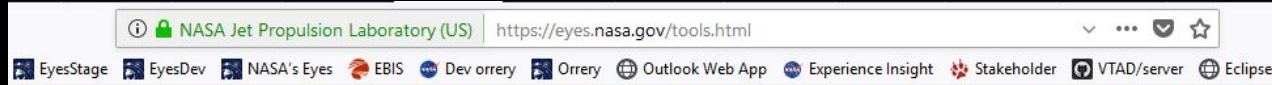
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Jet Propulsion Laboratory
California Institute of Technology

NASA's Eyes for Museums

The Eyes tools page: <https://eyes.nasa.gov/tools.html>



Jet Propulsion Laboratory California Institute of Technology

NASA's Eyes Server

NASA's Eyes Server allows you to download the all of the content on our servers so that you can run NASA's Eyes without being connected to the internet. The installation requires an AWS Key, which you can get by e-mailing jason.s.craig@jpl.nasa.gov. Note: This program only downloads the files required by NASA's Eyes, and NASA's Eyes is still required.

Download for Windows

Download for Mac

NASA's Eyes Config

NASA's Eyes Config enables Eyes to be configured to startup with various options, including fullscreen mode, a specific module, or to use NASA's Eyes Server. It also configures NASA's Eyes Server to download its files to a specific destination (such as an external drive) and to download a subset of the files required for specific modules.

Download for Windows

Download for Mac

Don't know how?



Highlights >



Missions >



Destinations >



People >

EYES ON THE EARTH

Latest Events

GO



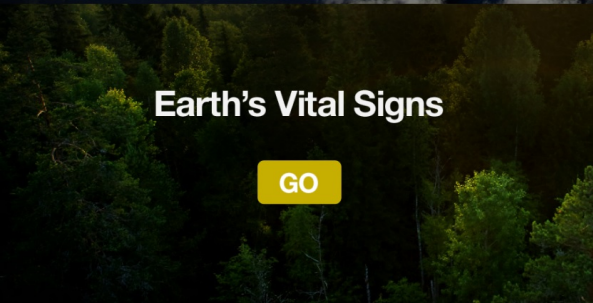
Earth's Selfie

GO



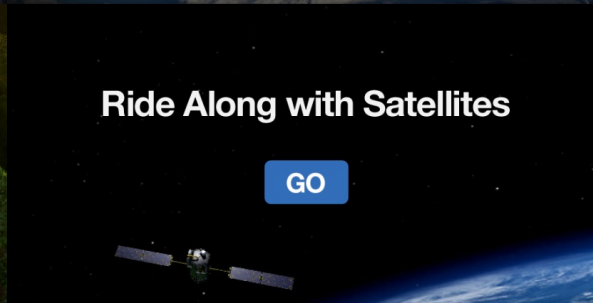
Earth's Vital Signs

GO



Ride Along with Satellites

GO



Eyes has three museum kiosk versions available: Earth, Solar System, and Exoplanets.



Jet Propulsion Laboratory
California Institute of Technology

EYES ON EXOPLANETS

experience at home: eyes.nasa.gov

EXPLORE THE
**WEIRDEST
PLANETS**

GO

FLY ALONG WITH
**PLANET
FINDERS**

GO

CHECK OUT THE
**VIEW FROM
EARTH**

GO

GET THE
**BIG
PICTURE**

GO

TODAY'S
PLANET COUNT

3397

STARS WITH
PLANETS

2531

EARTHLIKE
PLANETS

0

TIME REMAINING **4:20**

Software Uses and Users / Smithsonian Air and Space

- All three of NASA's Eyes applications are permanent exhibits currently on display at the Smithsonian National Air and Space Museum (NASM).



Software Uses and Users / Other Public Venues

- NASA's Eyes products are also on permanent display at over 23 locations around the United States in museums, science centers, libraries and schools.



GET INVOLVED

Learn more and access online digital library:
nisenet.org

Monthly newsletter
nisenet.org/newsletter



Social networking:
nisenet.org/social



Thank You

