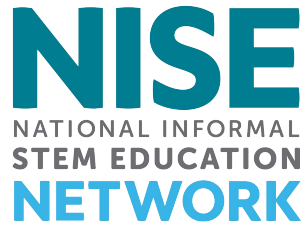


Earth & Space Project-Based Professional Learning Community



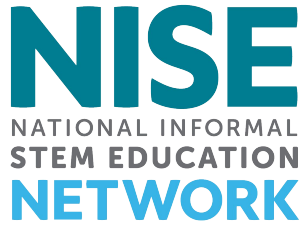
April Concurrent Session C3

Welcome!

As we wait to get started with today's online session:

- **Wave!** Please turn on your camera if you can
- **Rename your Zoom!** Please rename your Zoom window with your name and organization
- **Questions?** Feel free to type any questions you have into the chat
- **Recording?** Portions of this meeting will be recorded

Earth & Space Project-Based Professional Learning Community



Earth and Space for Everyone: Developing Materials and Partnering with Deaf and Blind Communities

- **Jenny Roe**, Imagination Station, Toledo, OH
- **Ellen Reinecke**, Robinson Nature Center, Columbia, MD
- **Dave Dooling**, New Mexico Museum of Space History, Alamogordo, NM
- **Greg Andrews**, Sci-Port, Shreveport, LA

OH, Toledo

Imagination Station

NAME: Jenny Roe

PROJECT DESCRIPTION:

My project revolved around creating a set of 12 hands on activities in an Earth and Space festival that is to be taken out to local urban elementary schools. I also worked with The Ability Center of Greater Toledo to ensure that the activities are as accessible as possible to all students.



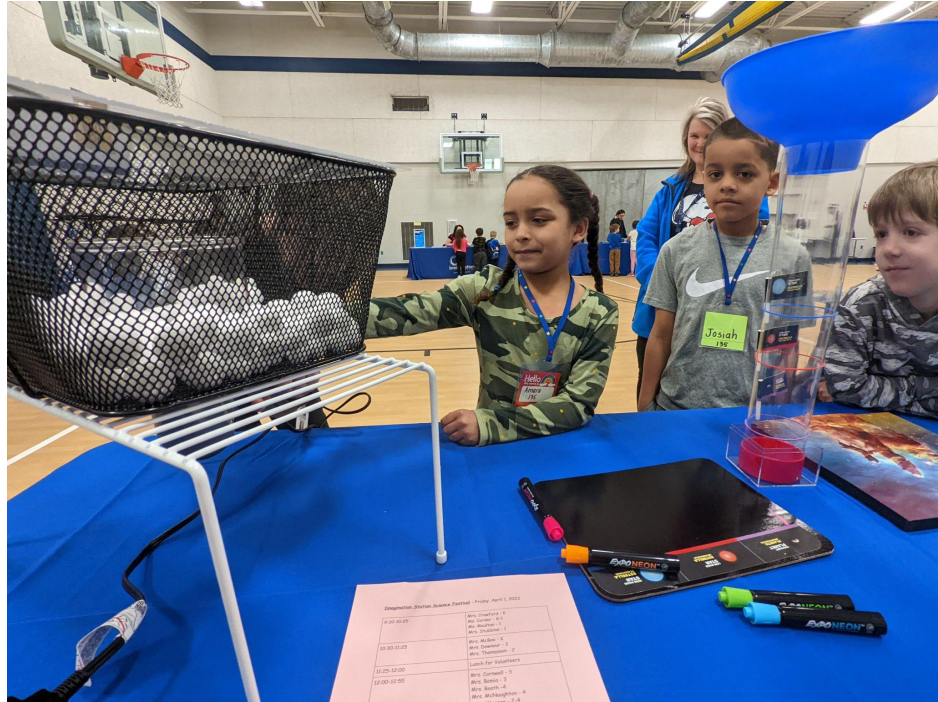
Festival Overview



Festival Accessibility



Festival Accessibility



Festival Accessibility





The Ability Center

Partnership Beyond the Project

- Conducted six focused walkthroughs of our facility
- Also did multiple Zoom calls with staff members
- Provided a letter of recommendations

Sensory Inclusive Certification

- Professional development for team
- Signage
- Sensory Bags



Festival Relevancy



MD, Columbia

Robinson Nature Center

NAME(S): Ellen Reinecke (she/her)
Sammy Baker (she/her)

PROJECT DESCRIPTION: Our project was based around creating and piloting a space science field trip for deaf and hard of hearing (DHOH) students in our community.



Ellen Reinecke



Sammy Baker

Program Overview



Challenges in a Planetarium



Lessons Learned

- **Ask your audience first!**
- **Check in often**
- **Ask for feedback**
- **Tips for working with the deaf community**
 - 2 ASL interpreters per group
 - Lighting in the planetarium
 - Explain, visualize, review
 - Small groups
 - Representation matters



Ongoing Relevance

Where do we go from here?

- Utilizing feedback to enhance future opportunities
- Staying in touch with the connections we've made
- Outreach options
- Funding for future opportunities
- Keeping up with curriculum changes



**Earth & Space Science for Everyone:
Developing Materials and Partnering with Differently Abled Communities**



Touching Space: Adapting NISE Net Kits for BVI Students

**Dave Dooling, Education Director
New Mexico Museum of Space History
Alamogordo, NM
April 21, 2022**



**New Mexico Museum of
SPACE HISTORY**
Alamogordo New Mexico

Integrate and adapt NISE Net kits to enable presentation of heliophysics and astrophysics to blind/visually impaired and other underserved audiences. We will partner with the New Mexico School for the Blind and Visually Impaired. This will complement our work with NASA's Polarimeter to Unify the Corona and Heliosphere mission (2024 launch).

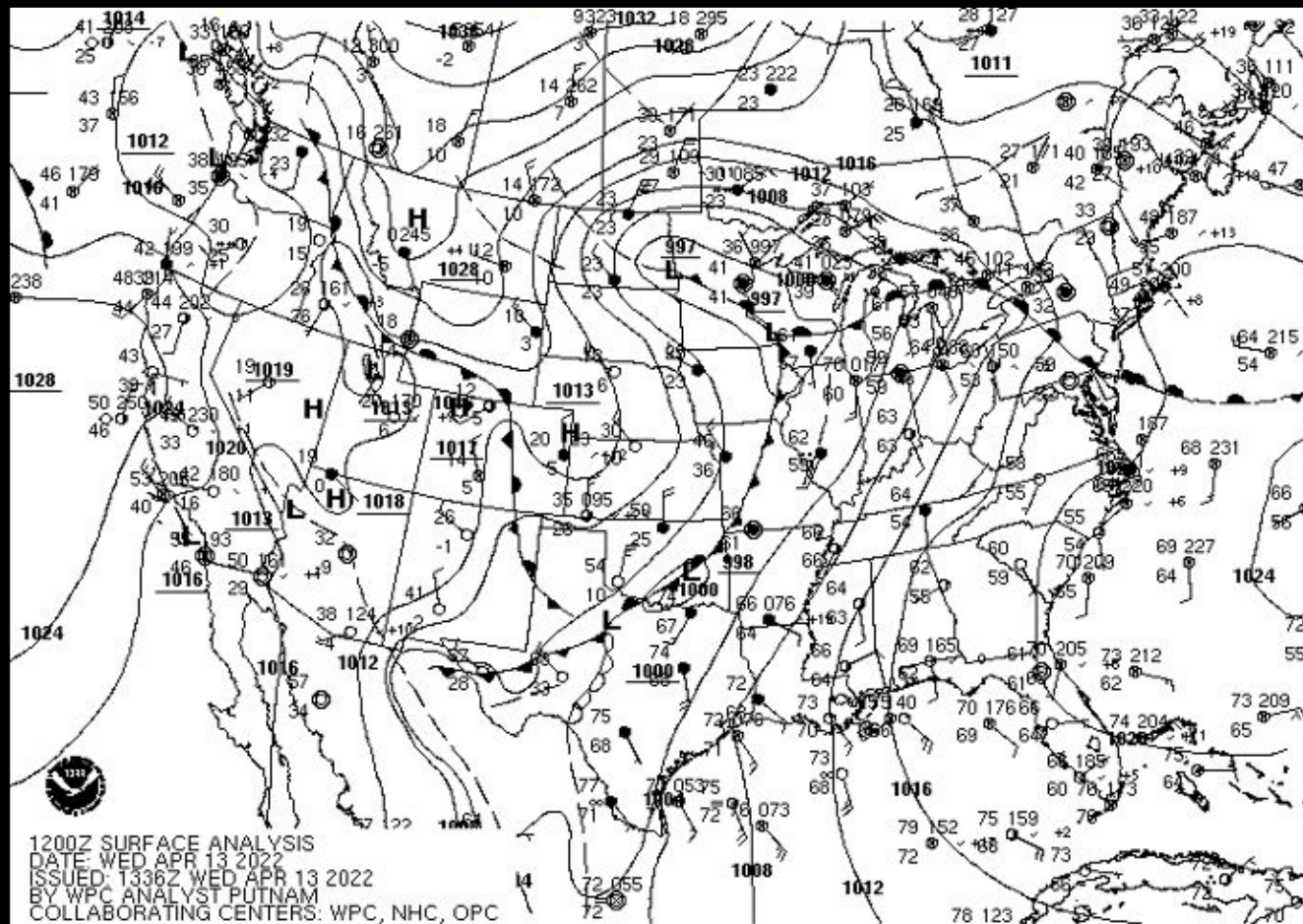
New Mexico Museum of Space History



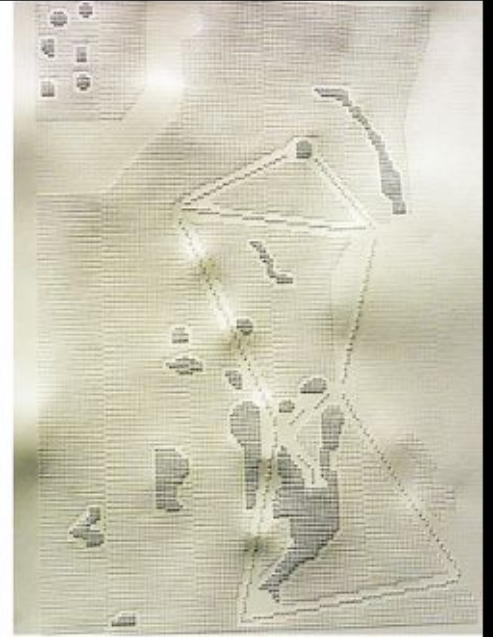
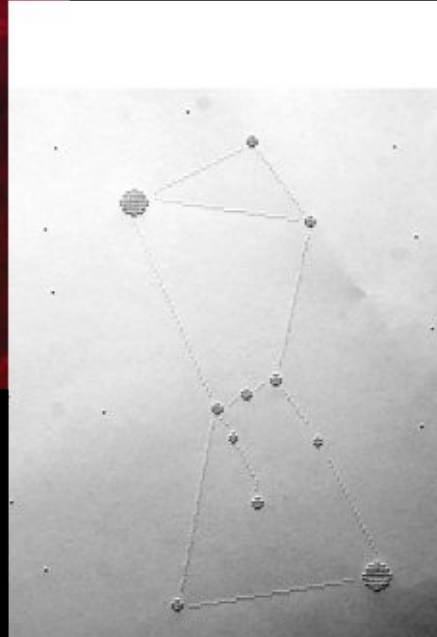
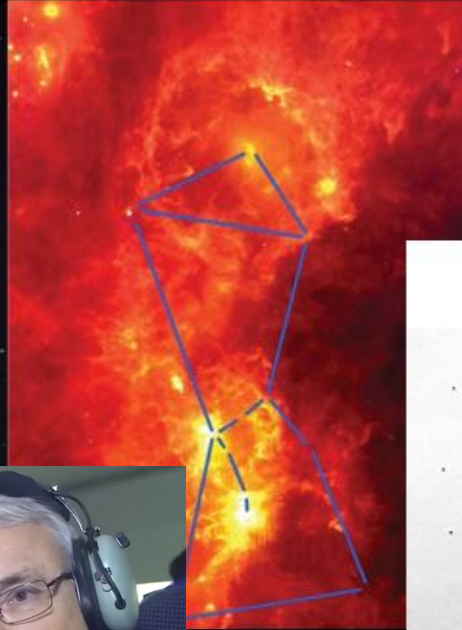
New Mexico School for the Blind and Visually Impaired



Challenge: How To Depict Tenuous, Multidimensional Data



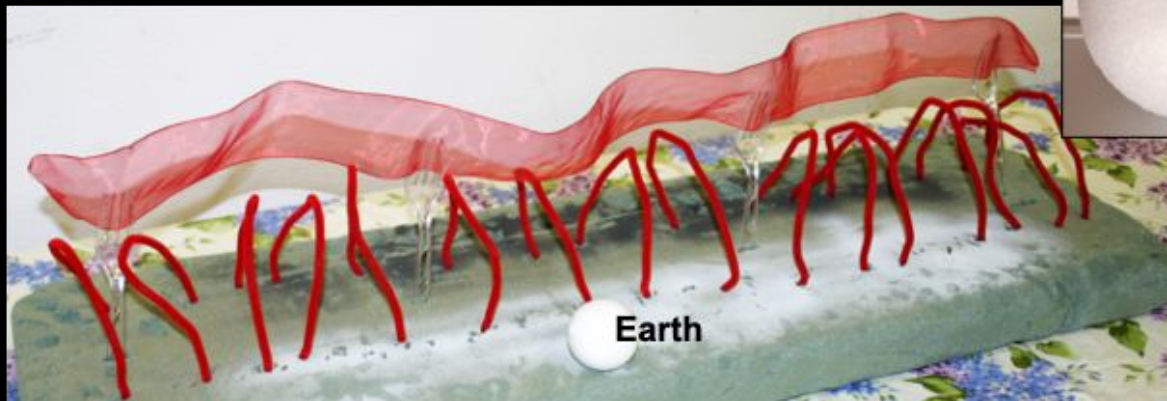
SOFIA Imagery of Orion



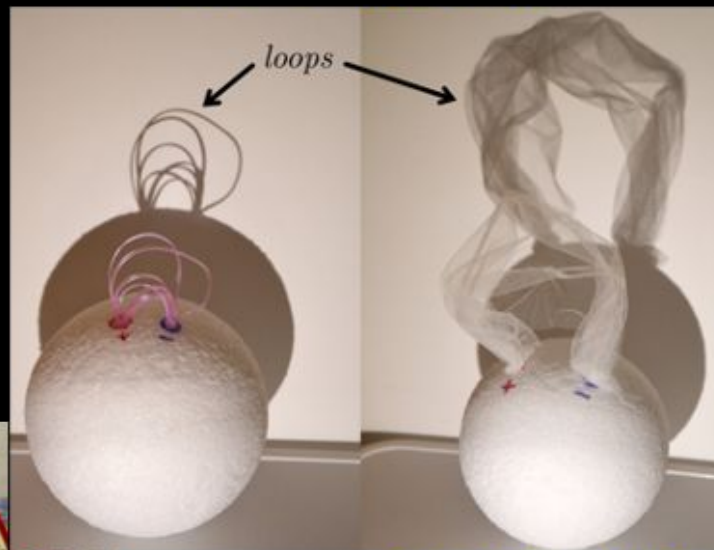
Solar Magnetism



Solar Filament



Coronal Loops/Sheets



**Anna Malanushenko,
High Altitude Observatory, 2022**

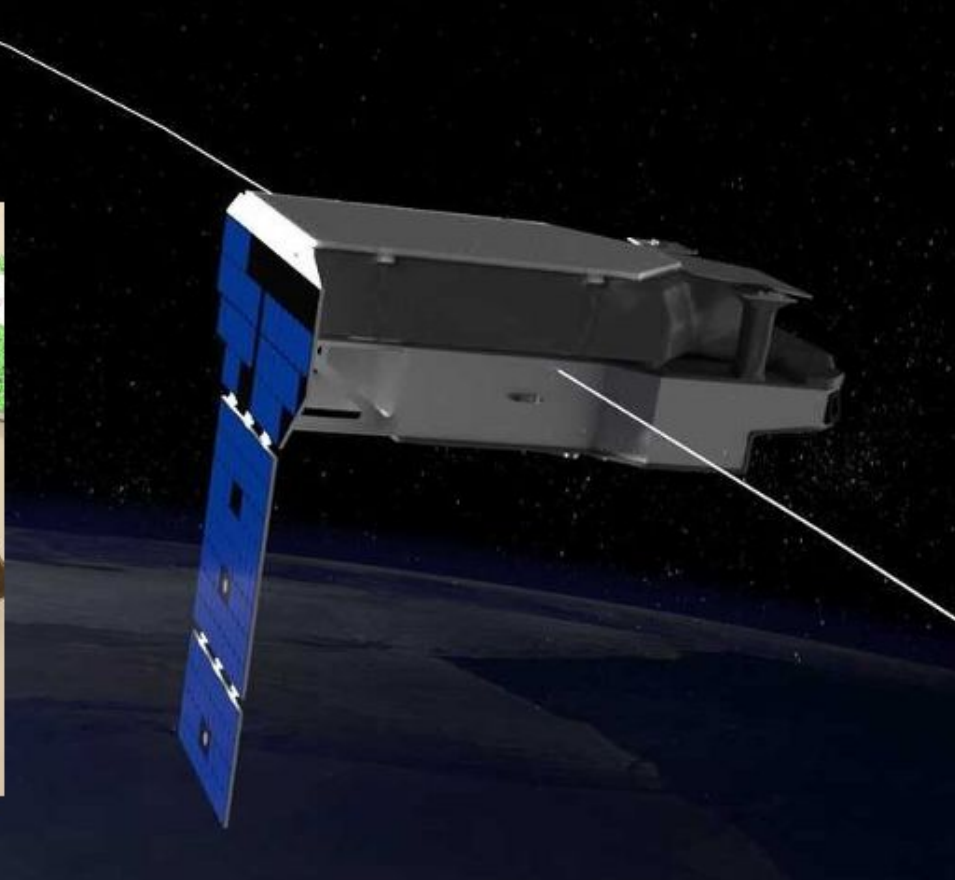
Pack a Space Telescope



Polarimeter to Unify the Heliosphere and Corona



1/4-scale New Horizons







**Mike Shinabery with NMSBVI students
at Las Cruces Space Festival**

Questions?

Dave.Dooling@state.nm.us

LA, Shreveport Sci-Port Discovery Center



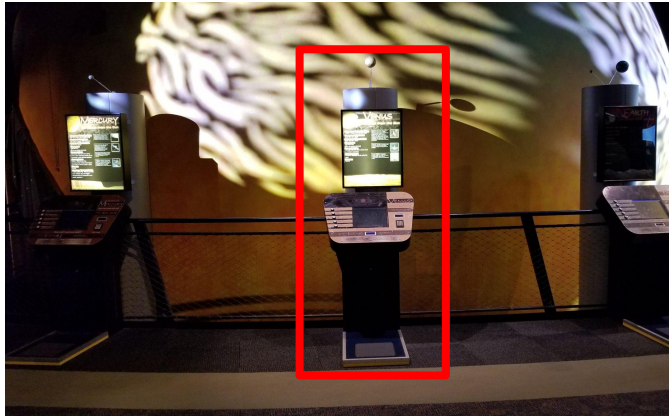
PROJECT DESCRIPTION: Sci-Port will incorporate information from this project learning opportunity into either signage for developing planet kiosks or activities developed with our planet kiosks.



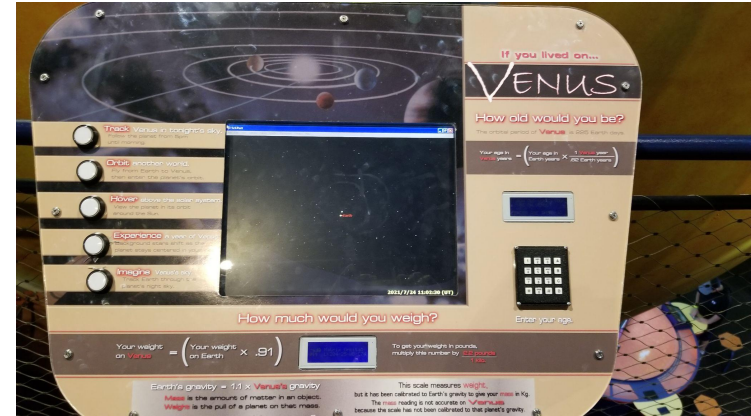
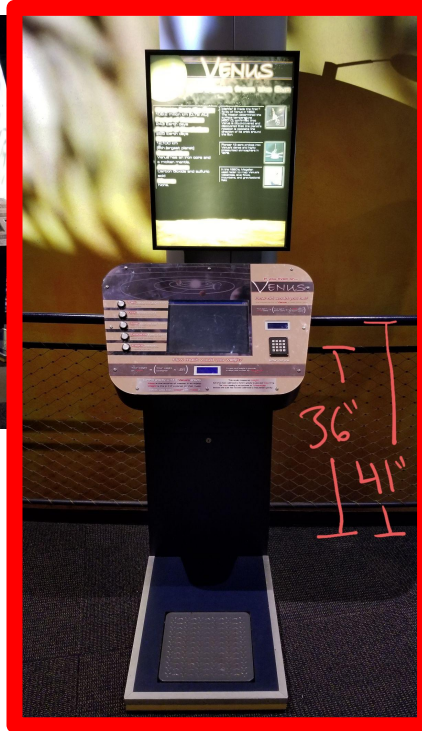
Greg Andrews



Planet Kiosks: Original

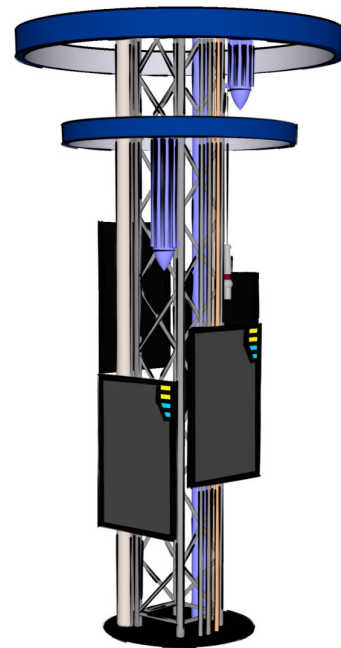
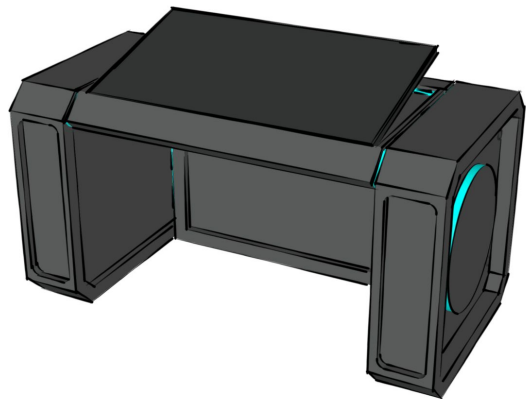


- The kiosks were designed for an older audience
- Initial goal was to refurbish the kiosks by updating the graphics and software (Windows XP!!).
- Also will provide complementary activities

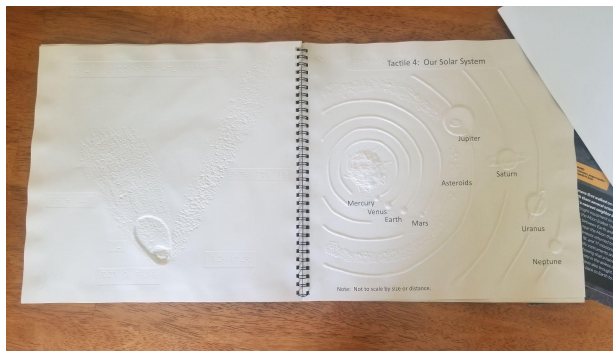


- The January and February sessions introduced DEAI concepts and we wanted to incorporate these concepts into the new kiosks.
- Not to be negative but...
- Difficult interaction if you are in a wheelchair (already known)
 - No interaction for blind/visually impaired visitors

Planet Kiosks: New



Story Tower made with tactile images/posters



New concept inspired by DEAI sessions!

- ADA compliant
- Braille/audio cues
- Install tactile panels → replicate pages from books from NISE NET kit
- Collaborating with the LAB - Louisiana Association for the Blind
- Will replicate activities/programs from other speakers

Discussion

- **Share some experiences of successfully reaching non-traditional audiences. How do you measure success?**
- **Share some examples of groups you've tried to reach but struggled? What are some challenges you've faced with specific programming or partnerships?**

Session Resources

Inclusive Audience Resources

- NISE Network Museum & Community Partnerships: Collaboration Guide:
<https://www.nisenet.org/collaboration-guide>
- NISE Network Working with STEM Experts: A Guide for Educators in Museums and Other Informal Learning Settings: <https://www.nisenet.org/working-with-experts>
- NISE Network Universal Design Programs Guide:
https://www.nisenet.org/sites/default/files/catalog/uploads/2976/ud_guide_programs_11_11_print.pdf
- Explore Science: Earth & Space Toolkits: <https://www.nisenet.org/earthspacekit>
- If/Then Collection: <https://www.ifthencollection.org/>
- Diversity Drives Innovation: <https://www.nasa.gov/careers/diversity>
- Kulture City: <https://www.kulturecity.org/>
- Tactile Models: <https://nasa3d.arc.nasa.gov/models>
- Assistive Technology Resource Suggestions for Imagination Station:
<https://docs.google.com/document/d/1aFednWBxAPTYUuXVs-xxnaJT-d2S3hYCfLZar1tH6s0/edit?usp=sharing>

Thank You

