Get Ready For The 2024 Eclipses: How To Inspire And Connect With Patrons And Partners Through Engaging STEM Programs

AGENDA

- Introductions
- Icebreaker
- Who is STAR Net?
- Website/Community
- Clearinghouse
- Passion for Pixels Activity
- Facilitation Strategy: Guide on the Side
- Other resources
- Ending Q&A

INTRODUCTIONS

Phyllis Kanekuni

Community Outreach and Engagement NASA@ My Library Coordinator, Thelma Parker Memorial Public Library

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Education Associate, Space Science Institute

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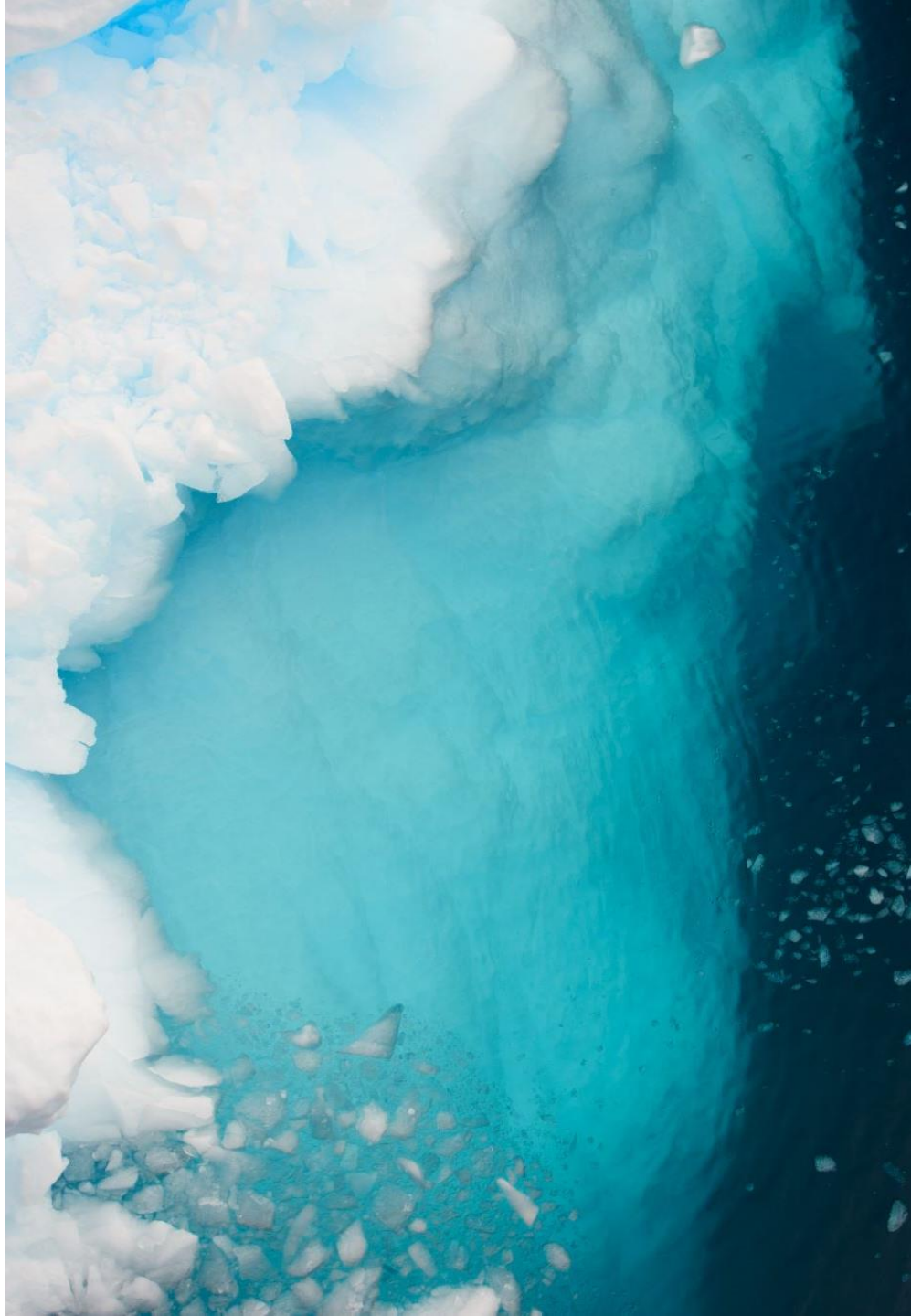
Education Specialist, Space Science Institute

ICE BREAKER

What are your favorite STEAM programs you've facilitated at your library?

Or

If you're new to STEAM programming, what types of programming interest you?



SPACE SCIENCE INSTITUTE

SSI'S MISSION

DISCOVER, EDUCATE, INSPIRE

- Enable scientists to advance our understanding of Earth and the Universe
- Increase science and tech literacy for all
- Inspire youth to pursue STEM education and careers

NCIL
National Center for Interactive Learning

STAR*net*
Science-Technology Activities & Resources For Libraries

RESEARCH PROGRAMS

at Space Science Institute

Research, development and consulting services in science, education and management.

STAR net

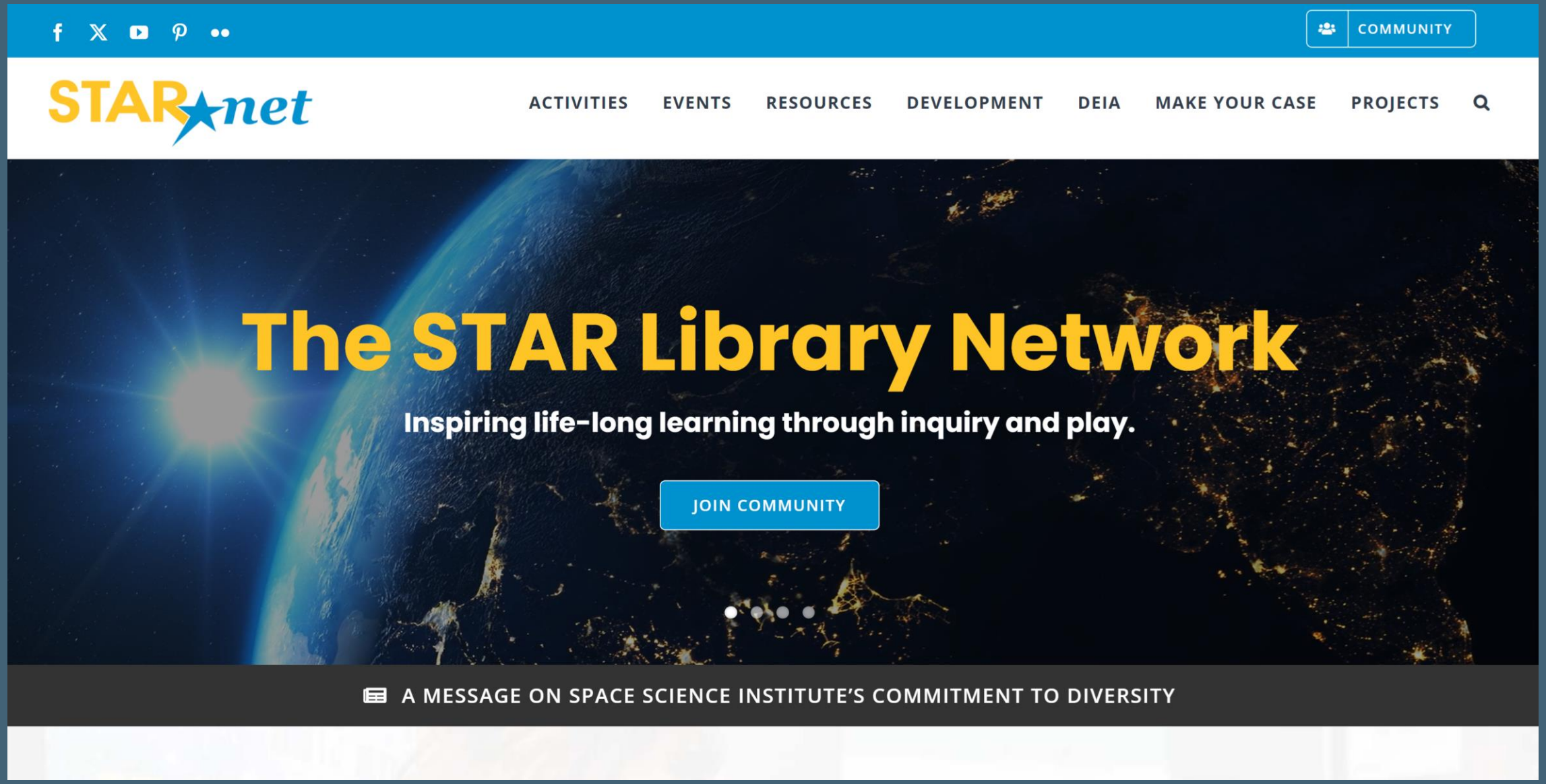
Science-Technology Activities & Resources For Libraries

STAR Library Education Network

Who we are and what we do!

WHAT DOES STAR NET DO?

- Exhibits
- Kits
- Professional Development
- Community Dialogues
- Partnership Guidance
- SME Matchmaking
- Events
- Interactive Activities
- Facilitation Strategies
- Resource Dissemination
- Eclipse Glasses and Training!


COMMUNITY
STAR net
ACTIVITIES
EVENTS
RESOURCES
DEVELOPMENT
DEIA
MAKE YOUR CASE
PROJECTS
The STAR Library Network
Inspiring life-long learning through inquiry and play.
JOIN COMMUNITY
A MESSAGE ON SPACE SCIENCE INSTITUTE'S COMMITMENT TO DIVERSITY

TARnet

ACTIVITIES EVENTS RESOURCES DEVELOPMENT DEIA MAKE YOUR CASE PROJECTS

STEM ACTIVITY Clearinghouse

Curated STEM Activities & Resources to Support Informal Learning

STEM Activity Clearinghouse

- Overview
- Browse & Filter
- Collections
- New Items

Take & Make

View This Collection

STEAM Equity

View This Collection

JOIN COMMUNITY

A MESSAGE ON SPACE SCIENCE INSTITUTE'S COMMITMENT TO DIVERSITY

arnetlibraries.org/activities/

COMMUNITY

STAR net

ACTIVITIES EVENTS RESOURCES DEVELOPMENT DEIA MAKE YOUR CASE PROJECTS

STEAM Resources

- Overview
- STAR Net Blogs
- Newsletters
- STEAM Ahead @ Home
- Guide on the Side
- Tweens and STEM
- STEM and STEAM Kits
- Engineering Program Activities
- SciGames
- STAR Net Blogs Archive

Guide on the Side

Facilitation Kits

STEAM Ahead @ Home

STEAM Ahead @ Home

Exhibition Posters

CineSpace Videos

Curiosity's Rover Adventure

COMMUNITY

STAR*net*

ACTIVITIES EVENTS RESOURCES DEVELOPMENT DEIA MAKE YOUR CASE PROJECTS

Diversity, Equity, Inclusion & Accessiblity

- Overview
- Diversity
- Resources
- Community Dialogues
- Engaging Families

Community Dialogues

View Online Guide

Diversity Resources

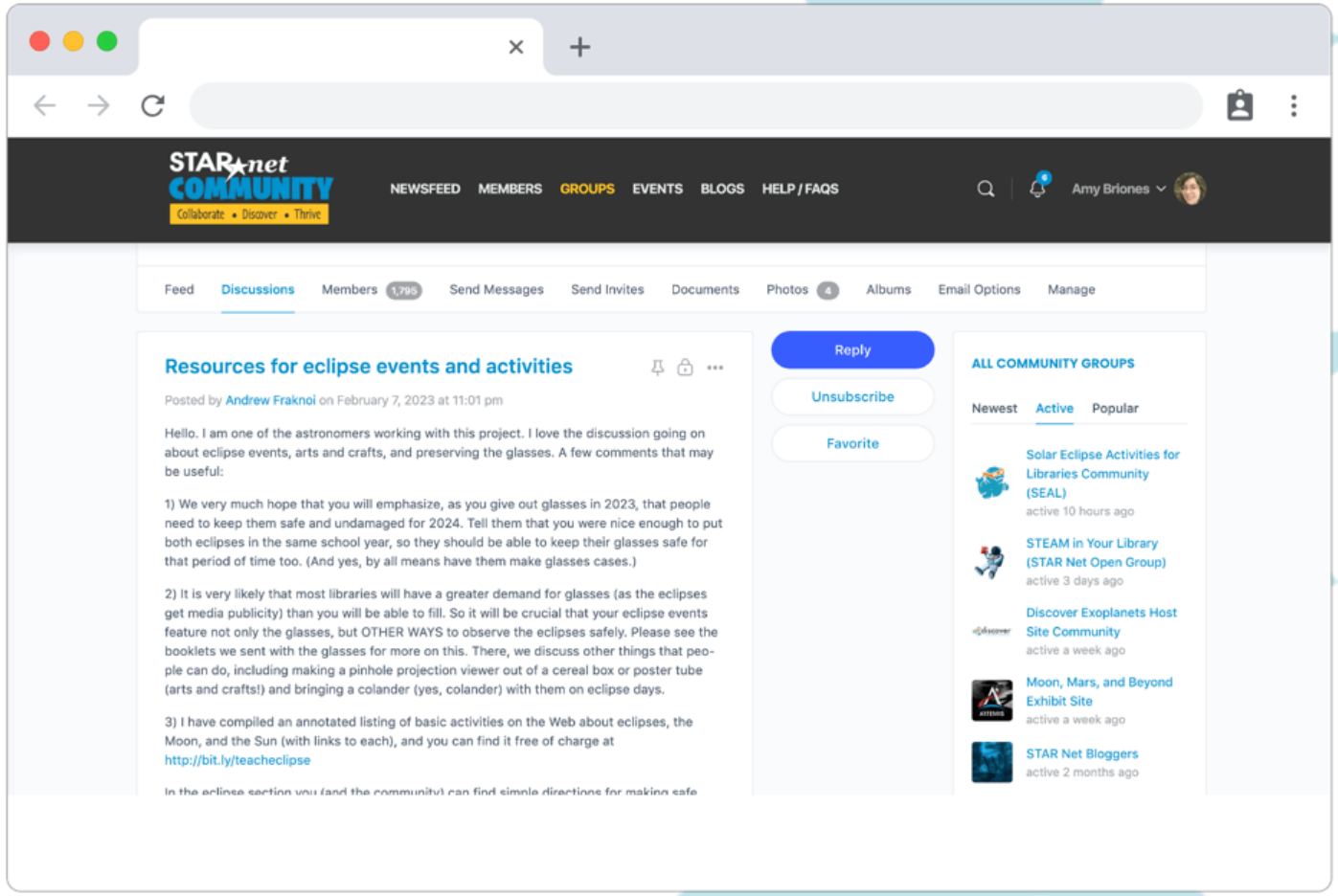
View Resources

A MESSAGE ON SPACE SCIENCE INSTITUTE'S COMMITMENT TO DIVERSITY

SEAL Group on the STAR Net Online Community

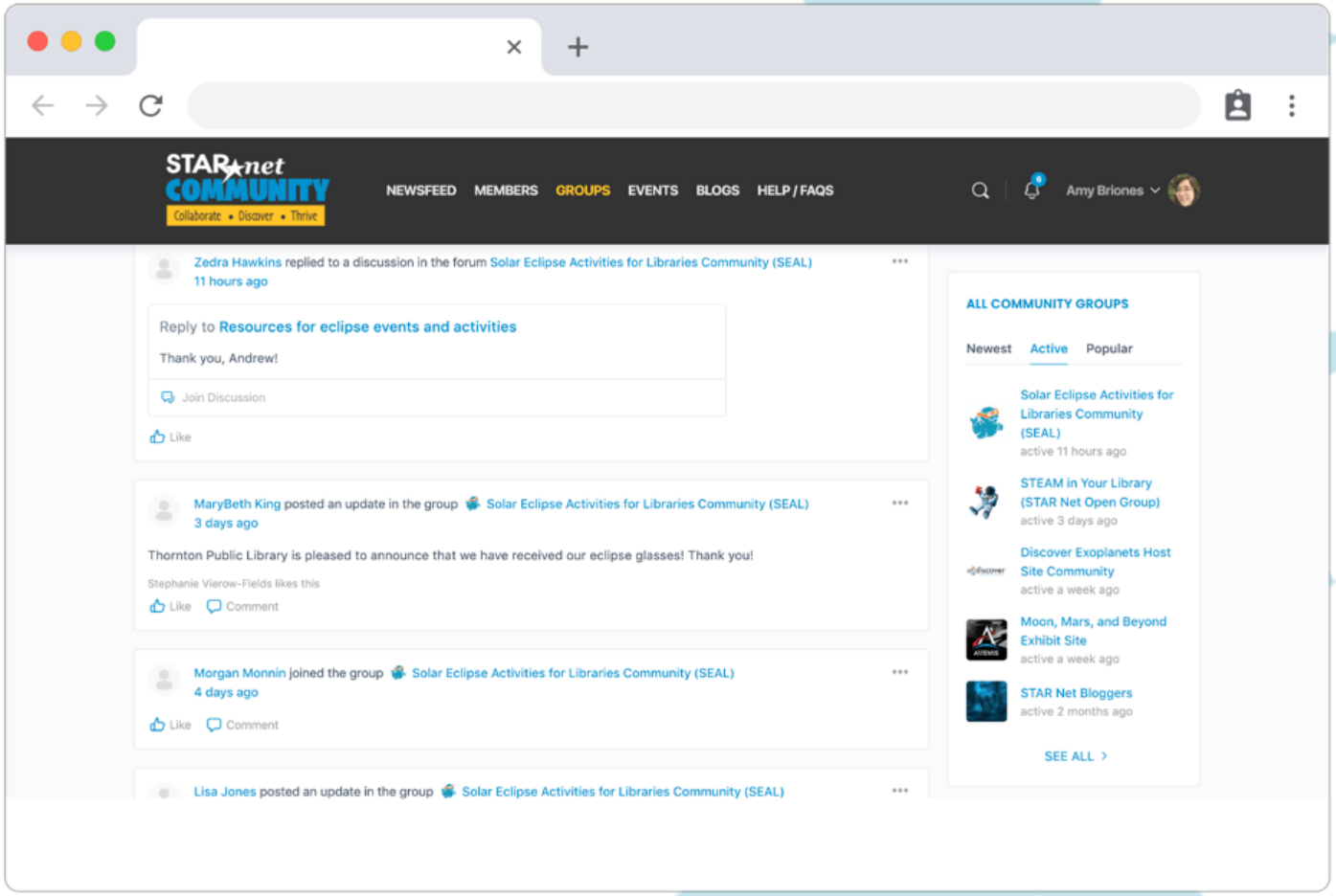
WHAT IS THE COMMUNITY?

- **Online network specially curated for you**
- **Opportunity to interact with fellow libraries**
- **Place to upload your program pictures, activity documents, and chat**



WHAT IS THE COMMUNITY?

Like other social media platforms, you can post discussions, “like” other’s comments, upload documents for activities and share pictures



STEM ACTIVITY Clearinghouse

STAR net

www.clearinghouse.
starnetlibraries.org

STAR_net
Science-Technology Activities & Resources For Libraries

In partnership with Cornerstones of Science
awakening curiosity, enriching lives

STEM ACTIVITY Clearinghouse

Search

VIEWED ITEMS

Diversión con Burbujas

¡Diviértate con Burbujas de Explora...

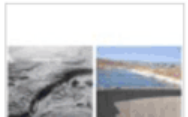
Water Cycle Paper Craft

Patrons learn about how the water...

UV Kid

In this activity, children use common...

NEW ITEMS



Walk Through Time: Water in the Four Corners Region Virtual Photo Gallery

Browse and Filter All Activities

In the STEM Activity Clearinghouse, librarians and library staff can find high quality, vetted STEM activities that are appropriate for library use. STEM stands for **S**cience, **T**echnology, **E**ngineering, and **M**ath.

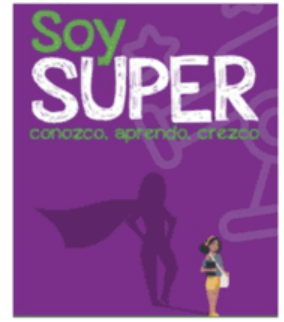
You can search by audience, content level, and difficulty, among others. You can also browse collections that we've curated just for you! Almost all the activities in the Clearinghouse have pictures or videos of real libraries doing these activities. Activities developed outside the STAR_Net Project will include tips and tricks for implementing in your library, and will link you back to the original source content so you can explore more.

FEATURED COLLECTIONS

All Collections >

Take & Make

We Are Water



I'm Super

We're Super Creative

FEATURED COLLECTIONS

All Collections >

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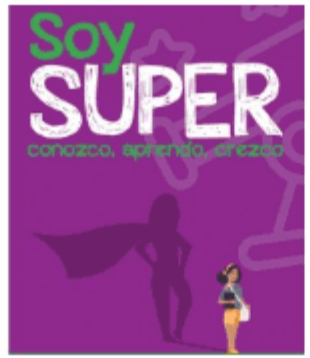

I'm Super

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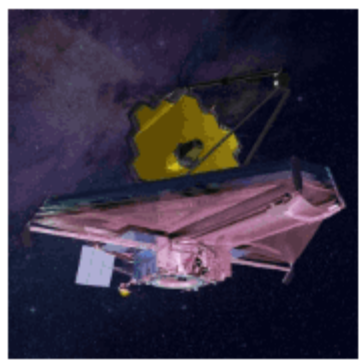
I'm Super Curious



Look Up! Explore Our Universe

Moon, Mars, and Beyond

Look Up! First Image

Solar Eclipse Activities for Libraries

STAR_net
Science-Technology Activities & Resources For Libraries

In partnership with Cornerstones of Science
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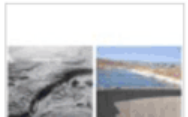
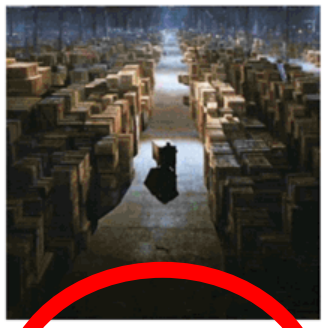


Walk Through Time: Water in the Four Corners Region Virtual Photo Gallery



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I'm Super

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SORT

Age Group

- All Ages (10)
- Family (464)
- Infant (0-2) (1)
- Pre-K (81)
- Early Elementary (255)
- Upper Elementary (425)
- Tweens (9-12) (402)

Time to Complete Activity

- Under 10 minutes (21)
- 10-20 minutes (114)
- 20-40 minutes (206)
- 40 minutes to 1 hour (237)
- 1-2 hours (77)
- 2-4 hours (10)
- Long Duration (days to months) (27)

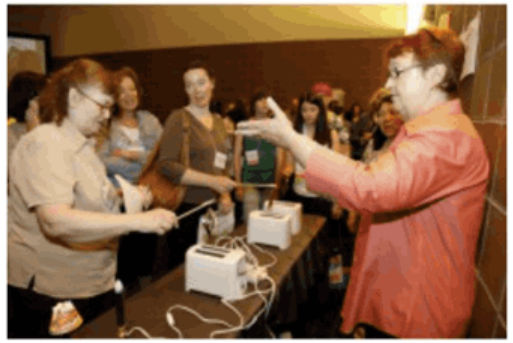
ACTIVITIES

There are 531 items.

Sort by -- Show 12 per page

Showing 1 - 12 of 531 items

Previous 1 2 3 ... 45 Next Show all



Can a Toaster Make Wind?

★★★★☆ *1 Review(s)*

In this demo, patrons investigate the source of wind by using a toaster to heat air while they observe its effect on a small aluminum foil kite.

Check It Out

How-to Video

Teacher's Guide

Content Area
Earth Science

Age Group
Family
Upper Elementary
Tweens (9-12)
Teens

Time to Complete Activity
Under 10 minutes

Cost associated with Activity Materials
$0 ("found" items)

Difficulty Level (by content)
Medium

STEM Tools

SORT

Age Group

- All Ages (10)
- Family (464)
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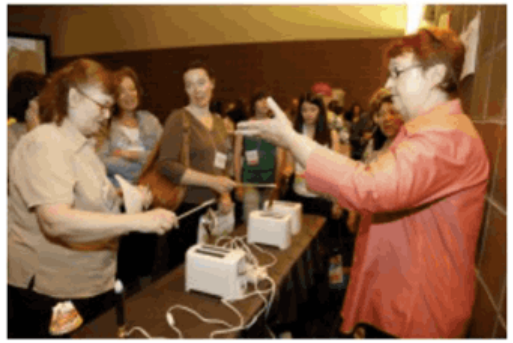

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- [ ] Family (464)
- [ ] Infant (0-2) (1)
- [ ] Pre-K (81)
- [ ] Early Elementary (255)
- [ ] Upper Elementary (425)
- [x] Tweens (9-12) (402)

✓Tweens

Time to Complete Activity

- [ ] Under 10 minutes (21)
- [ ] 10-20 minutes (114)
- [ ] 20-40 minutes (206)
- [x] 40 minutes to 1 hour (237)
- [ ] 1-2 hours (77)
- [ ] 2-4 hours (10)
- [ ] Long Duration (days to months) (27)

✓Tweens
✓One hour

Difficulty Level (by content)

- [x] Easy (258)
- [ ] Medium (236)
- [ ] Rocket Scientist (21)

✓ Tweens
✓ One hour
✓ Easy

Additional Languages Available

☑ Española / Spanish (37)

- ✓ Tweens
- ✓ One hour
- ✓ Easy
- ✓ Instructions in Spanish

SORT

Age Group

- [ ] Family (14)
- [ ] Pre-K (1)
- [ ] Early Elementary (6)
- [ ] Upper Elementary (13)
- [x] Tweens (9-12) (14)
- [ ] Teens (2)
- [ ] All Ages (0)

Time to Complete Activity

- [ ] 10-20 minutes (1)
- [ ] 20-40 minutes (4)
- [x] 40 minutes to 1 hour (14)
- [ ] 1-2 hours (1)
- [ ] Under 10 minutes (0)
- [ ] 2-4 hours (0)
- [ ] Long Duration (days to months) (0)

ACTIVITIES > AGE GROUP TWEENS-9-12 > TIME TO COMPLETE ACTIVITY 40-MINUTES-TO-1-HOUR > DIFFICULTY LEVEL (BY CONTENT) EASY > ADDITIONAL LANGUAGES AVAILABLE ESPANOLA-SPANISH

There are 14 items.

Sort by -- Show 12 per page

Showing 1 - 12 of 14 items

< Previous 1 2 Next > Show all

Globos Rebotantes

Deportes + Ingeniería = ¡Gran Diversión! La ingeniería en deportes se centra en el diseño, desarrollo y prueba de implementos deportivos, tales como las pelotas.

Check It Out

Age Group
Family
Upper Elementary
Tweens (9-12)

Time to Complete Activity
40 minutes to 1 hour

Cost associated with Activity Materials
$5-$10

Difficulty Level (by content)
Easy

Additional Languages Available
Española / Spanish

View larger

Tweet | Share | Google+ | Pinterest

Send to a friend

Print

Diversión con Burbujas

¡Diviértate con Burbujas de Explora en casa!

Open Activity

Write a review

Age Group
Family
Early Elementary
Upper Elementary
Tweens (9-12)

Time to Complete Activity
20-40 minutes
40 minutes to 1 hour

Cost associated with Activity Materials
$5-$10

Difficulty Level (by content)
Easy

Mess Level
High

Additional Languages Available
Española / Spanish

Report a broken link

Categorized Incorrectly? Let us know!

RELATED PROGRAMMING RESOURCES

RELATED PROGRAMMING RESOURCES

Hints for uses in your library	Patrons of all ages will love experimenting with bubbles! This activity is best done outside for easy cleanup.
Related Links	How to Make Bubbles The Science Behind Bubbles Science World: Bubbles Science World: Bubble Tricks
Originating Source	Explora
Related Books **[Suggest a book]**	Science Magic for Kids: 68 Simple and Safe Experiements by William R Wellnitz Bubble Fun by Neville Astley and Mark Baker Bubble Trouble by Tom Percival

REVIEWS

Be the first to write your review!

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REVIEWS

Be the first to write your review!

WRITE A REVIEW

Diversión con Burbujas

¡Diviértate con Burbujas de Explora en casa!

Participants Enjoyed the Activity:

Participants Learned from This Activity:

Activity Instructions Were Clear and Easy to Follow:

Would Recommend:

Title: *

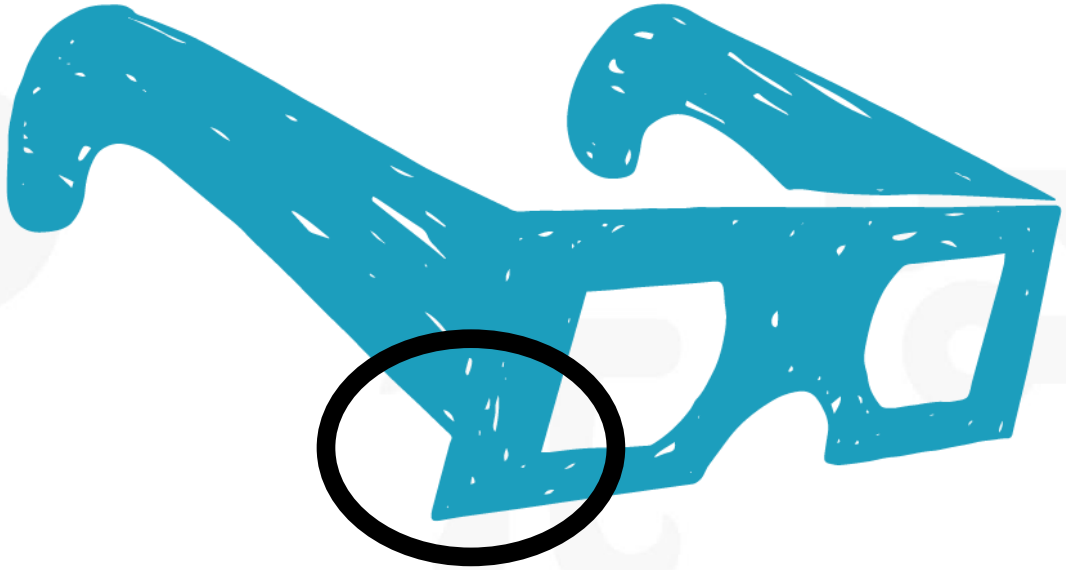
ACTIVITY: PASSION FOR PIXELS

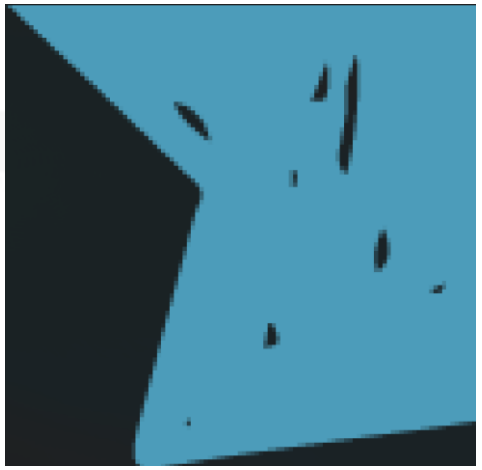
Passion for Pixels

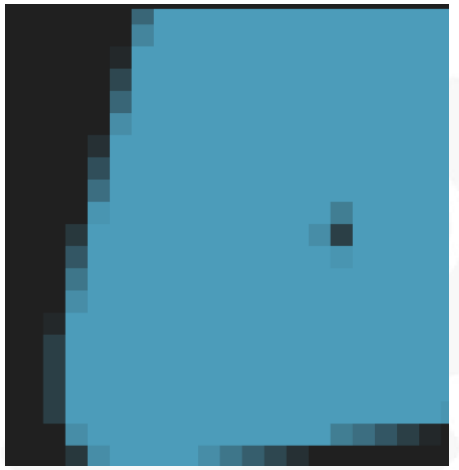
- Explore binary coding by “transmitting” a picture from yourself to a partner
- Materials
  - Two paper grids (paper grids or hand-drawn grids)
  - Writing instrument

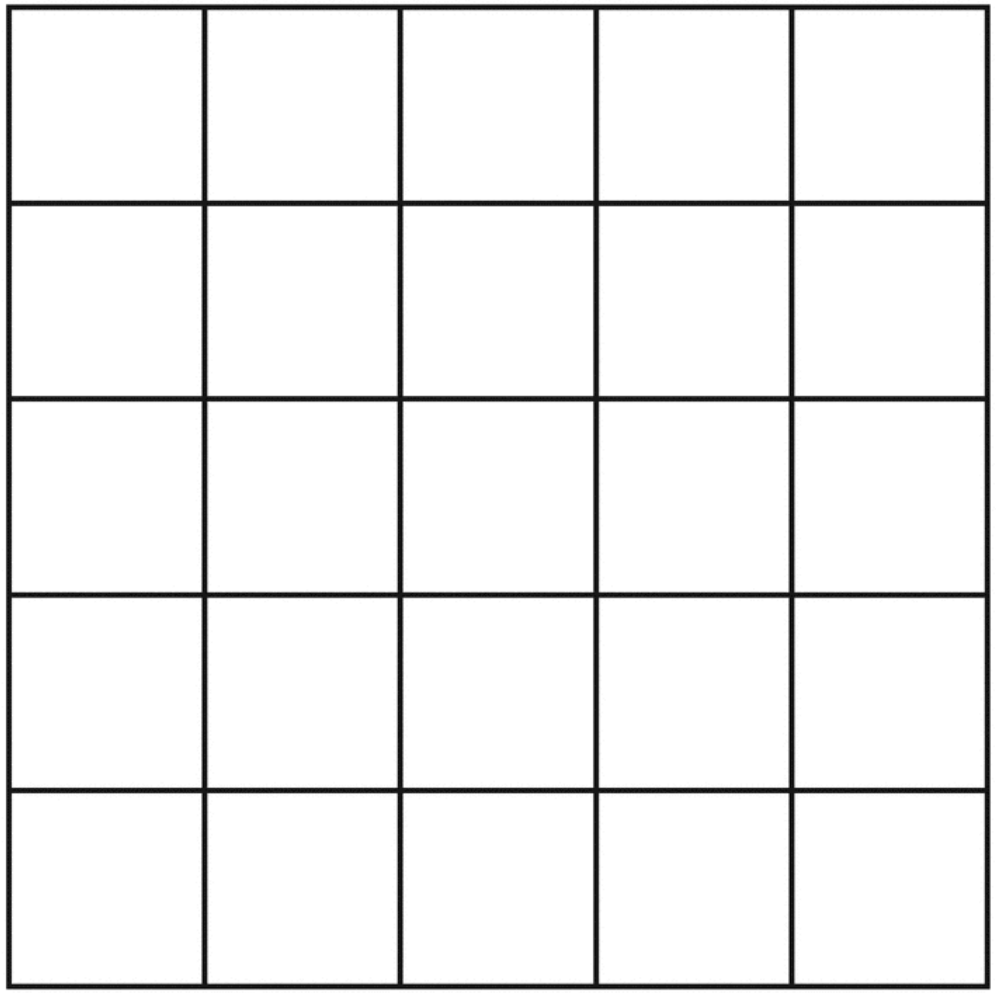
Passion for Pixels

- Digital images are made of **pic**ture **el**ements (pixels)
- The ratio of pixels to area of the image determines the resolution (clarity) of the image
- 300 dpi – printed images
- 72 dpi – digital images

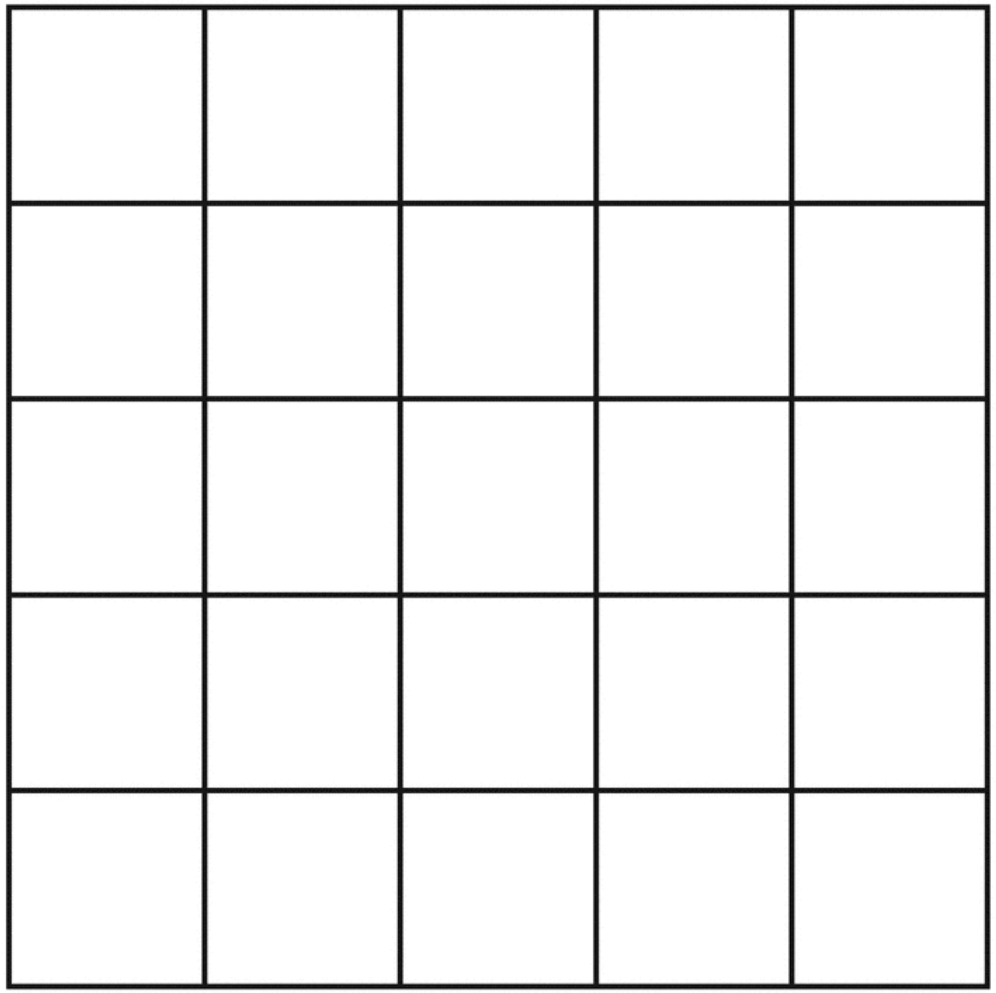






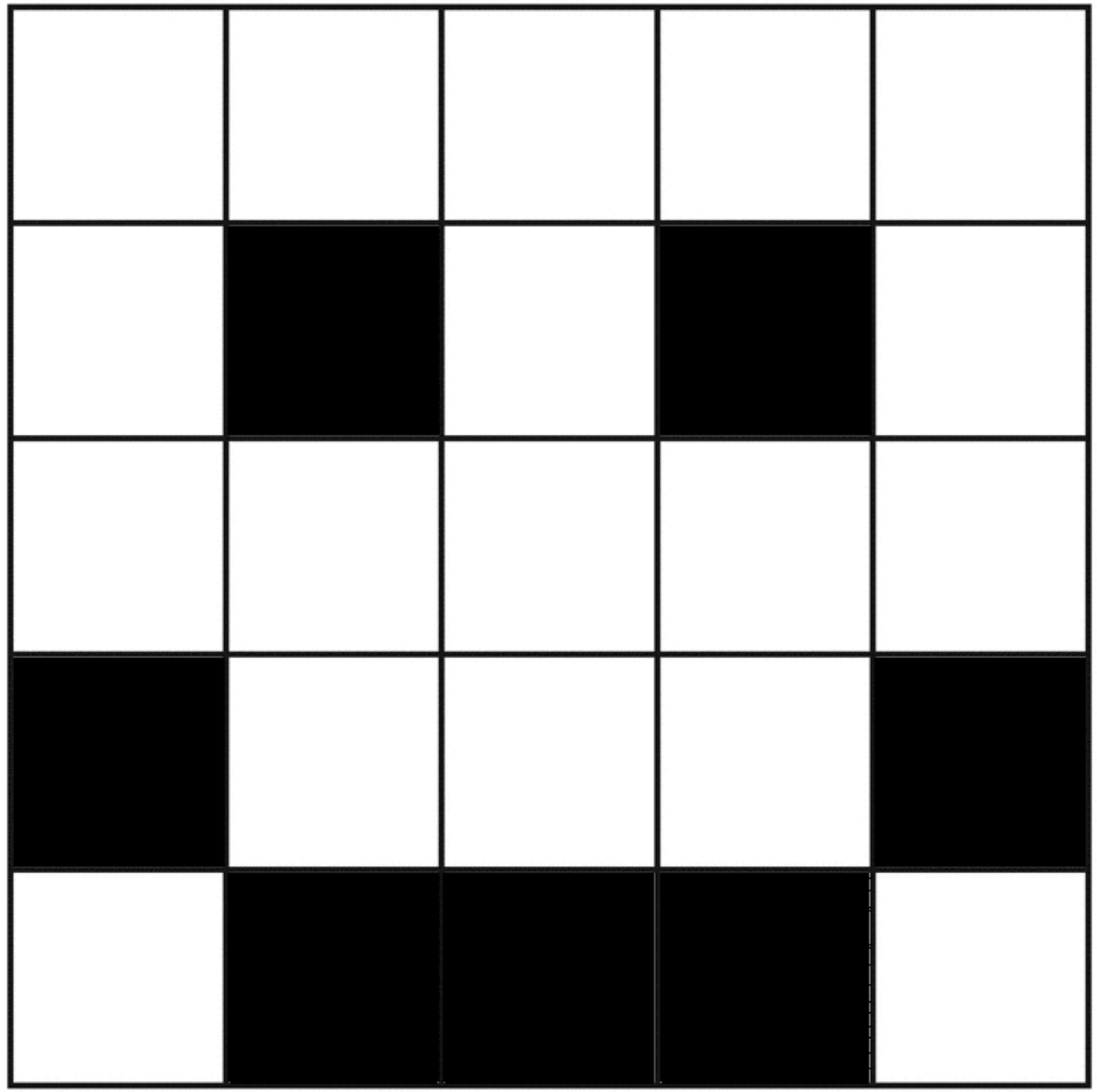


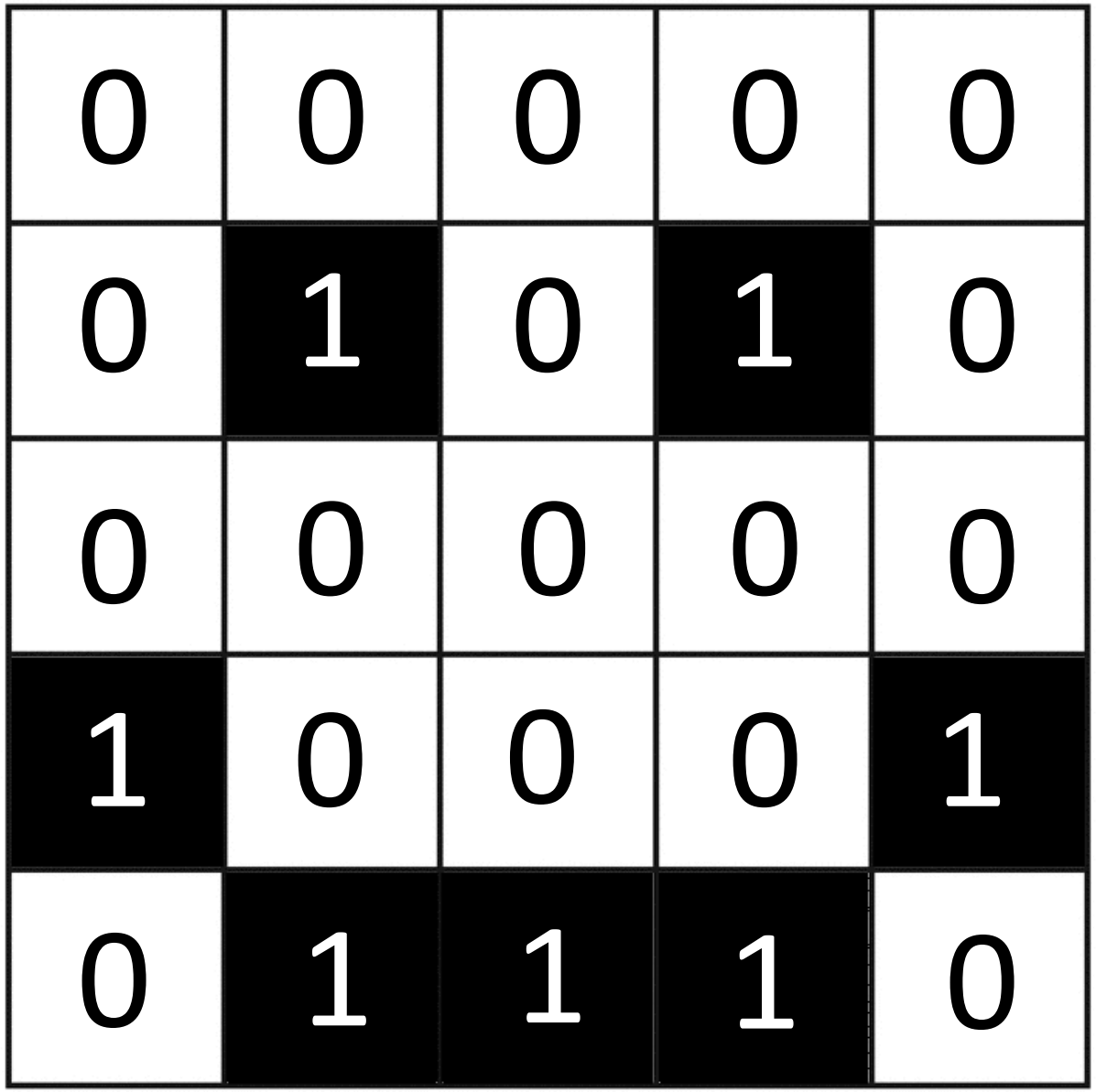
- Pick a “transmitter” and “receiver”
- The transmitter tells the receiver the image in binary code
- “0” for empty square
- “1” for filled square
- This is binary coding!



Important tips

- Determine order of transmission
- Left to right? Right to left?
- Does a new line start on the same side you began on or wrap around?




0 0 0 0 0
0 1 0 1 0
0 0 0 0 0
1 0 0 0 1
0 1 1 1 0

STEAM FACILITATION STRATEGIES

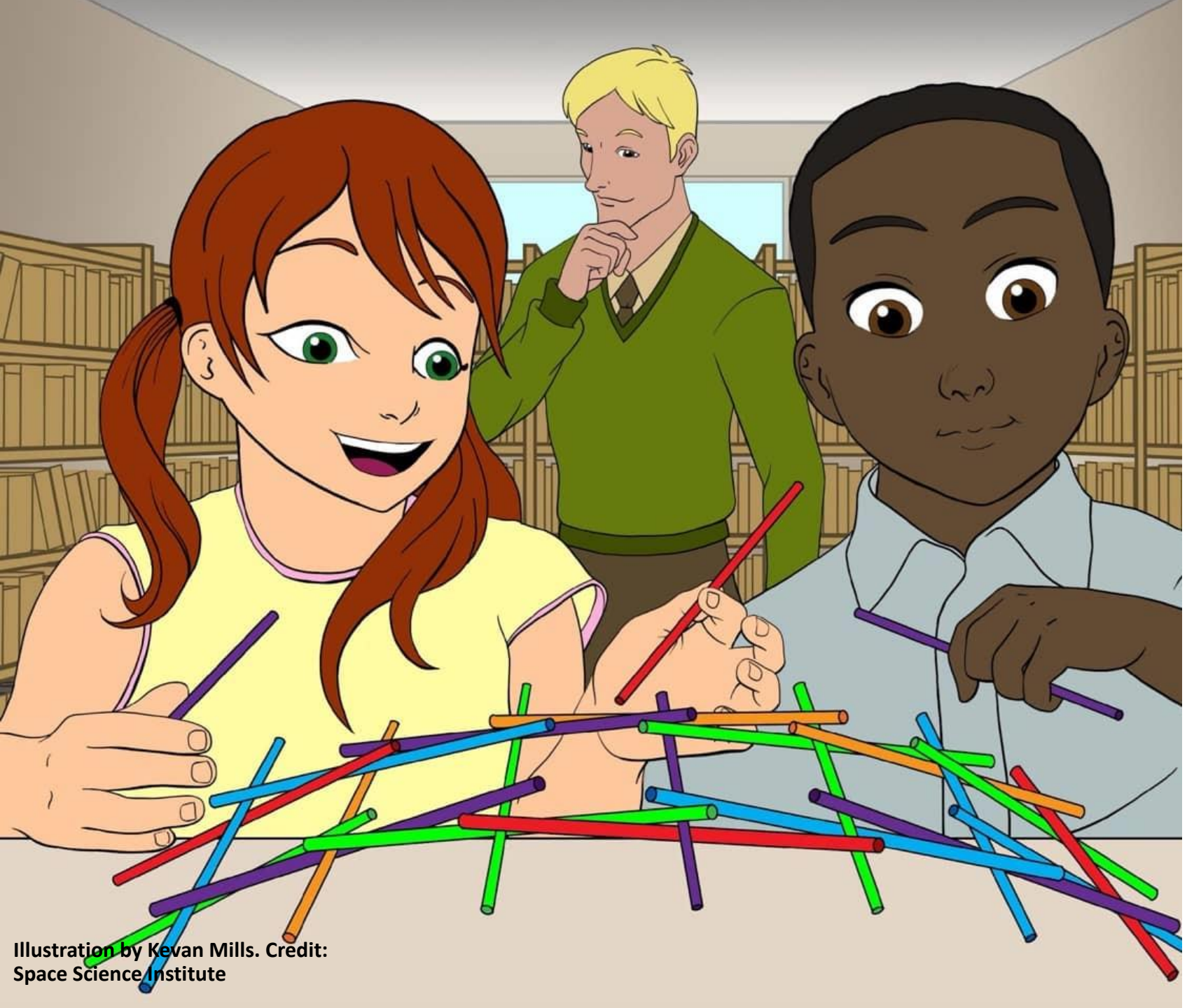


Illustration by Kevan Mills. Credit:
Space Science Institute

What do you notice about this image?

Guide on the Side

“Guide on the Side”
Strategies for Your STEAM Programs

Credit: Space Science Institute

Strategy 1

Create a safe learning environment

Credit: Space Science Institute

I don’t know…let’s find out together!

That is an interesting thought! How did you come up with it?

Strategy 2

Open-ended questions

Credit: Space Science Institute/High Plains Library District

Credit: Rolling Hills Consolidated Library

Strategy 3

Let's take another look

What did you observe?

Illustration by Kevan Mills. Credit: Space Science Institute

Strategy 3: Wait Time

Wait approximately 5 seconds after asking a question.

Respond to someone who took longer to form his or her thoughts.

Gives time for learners to think about and articulate their ideas.

Strategy 4

Turn and talk

Credit: Rolling Hills Consolidated Library

Credit: Pioneer Library System

“Help each other figure this out. Take your time. I will come back in a few minutes to see how you’re doing.”

Strategy 5

Hands-on activities

Have you tried any of these facilitation strategies in your organization?

1. Create a Safe Learning Environment
2. Open-Ended Questions
3. 5-Second Wait Time
4. Turn and Talk
5. Hands-on Activities

Free Additional Resources

500+ STEAM Activities for Public Libraries

clearinghouse.starnetlibraries.org

STAR Net Online Community

community.starnetlibraries.org/

Eclipses in Fiction (books, music, art, videos)

www.fraknoi.com/wp-content/uploads/2022/11/Resources-Connecting-Eclipses-and-Other-Fields.pdf

#STEMInLib Videos

youtube.com/starnetlibraries

Booklet for Librarians and Library Patrons

bit.ly/eclipsesforlibraries

NASA's Night Sky Network

nightsky.jpl.nasa.gov/

NASA's Solar System Ambassadors

solarsystem.nasa.gov/solar-system-ambassadors/events/

Getting Started with SEAL

community.starnetlibraries.org/get-started-with-seal/

NASA Eclipses website

solarsystem.nasa.gov/eclipses

American Astronomical Society Eclipse website

eclipse.aas.org

What ideas do you have to use all these resources?

QUESTIONS?

SESSION FEEDBACK: "Get Ready For The 2024 Eclipses: How To Inspire And Connect With Patrons And Partners Through Engaging STEM Programs"

Also access the link from the Sched session page