

It's Not Rocket Science! How any library can do more STEM

Imagine what a library can be
DISCOVER





GINGER FITZHUGH

Research Scientist
EDC



JENNIFER JOCZ

Senior Research Associate
EDC



GINA MILLSAP

Former CEO
Topeka & Shawnee County
Public Library



GEORGETTE KENNEY

VP of Corporate Marketing
Bibliotheca

STEM in Libraries

- We've evaluated projects designed to help libraries increase quantity & quality of STEM programming
- Today, we'll share what we've learned about what helps libraries do STEM and how STEM can benefit your library community
- We'll share ideas for next steps



STEAM Equity



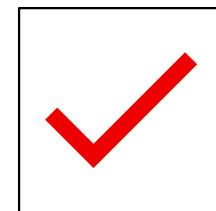
Polls

Over the last 12 months, approximately how many STEM-related activities or programs has your library offered?

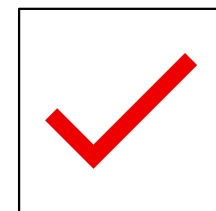
Who has facilitated STEM-related programming at your library?

What contributes to successful STEM programming in libraries?

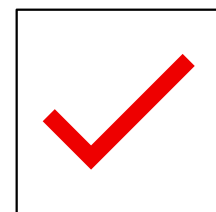
Libraries that
have had success
organizing STEM
programming
often...



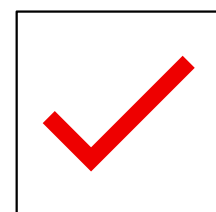
Are interested and passionate about bringing STEM to their library and patrons



Work with partners from their community and beyond



Understand their audience and community

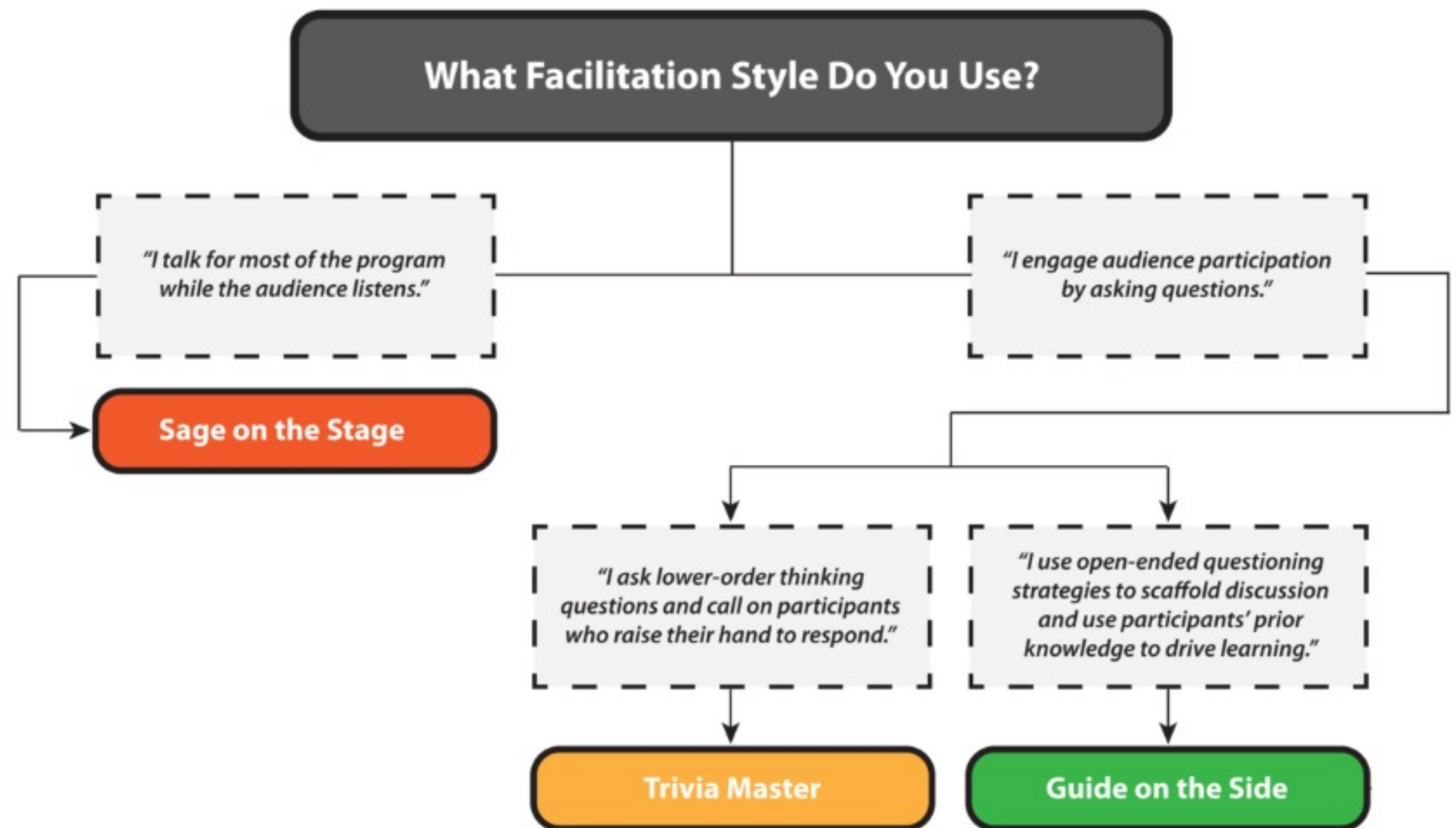


Offer a variety of opportunities for people to engage with STEM

You do NOT have to be a STEM
expert

Be a “Guide on the Side” Instead

- Ask open-ended questions to facilitate thinking and discovery
- Explore and learn together with your audience
- Provide encouragement without giving answers
- There is often no one “right” answer or way of doing something
- It’s ok to say you don’t know something but will find out



Source: <https://www.starnetlibraries.org/resources/guide-on-the-side>

“ I feel a lot more confident about letting kids find their own way. I always worry when I do a STEM program, like, oh my gosh, they’re going to ask me a question I don’t know the answer to. The fact that I don’t know the answer and ‘why don’t you try to figure it out’ is something now I finally feel confident with. **It’s okay to let kids do discovery on their own.**

~ Librarian



Work with Partners

- Identify STEM experts to help facilitate programs and provide resources
- Help provide content expertise
- Diverse partners can help show that “everyone can STEM”
- Potential partners include:
 - Local universities
 - Museums or science centers
 - Amateur astronomy groups (e.g., Night Sky Network, Amateur Astronomers)
 - Professional organizations



Libraries are a Key Piece of the STEM Partnership Puzzle

- Libraries know their patrons and communities
- Offer a trusted place for people to engage with STEM
- Provide the space and help with program planning and promotion



Know your audience and community

Community Dialogues

WHAT ARE COMMUNITY DIALOGUES?


Loosely facilitated discussions between library staff and community members

WHAT CAN COMMUNITY DIALOGUES HELP YOU DO?

- Learn more about what your community thinks about STEM
- Understand challenges to accessing STEM
- Build potential partnerships

WANT TO KNOW MORE ABOUT COMMUNITY DIALOGUES?

Look for link in resources or visit starnetlibraries.org website and search for community dialogues



**A Community Dialogue Guide
for Public Libraries**

Anne Holland (Space Science Institute) &
Paul Dusenbery (Space Science Institute)

STARnet
Science-Technology Activities &
Resources For Libraries

SPACE SCIENCE INSTITUTE
National Center for
Interactive Learning

NASA@ My Library

NSF

SEPA SCIENCE EDUCATION
PARTNERSHIP AWARD
SUPPORTED BY THE NATIONAL INSTITUTES OF HEALTH

ALA American
Library
Association

EDC Education
Development
Center

COLORED AHE

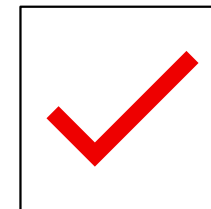
This work is supported by the National Science Foundation (NSF): STAR Net Phase 2 (DRL-1421427) and Project BUILD (DRL-1657593). Additional support came from NASA@ My Library funded under cooperative agreement No. NNX16AE30A and the National Institutes of Health (NIH) under Award Number 8R25GM129203-06. 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, NSF, or NIH.

Other Ways to Learn from Your Audience

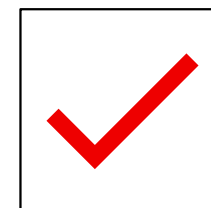
- Informal conversations
- Brief surveys or feedback forms
- Talk-back boards



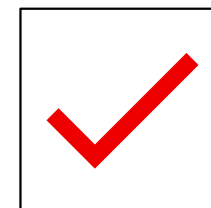
Other Audience Considerations



Who does your library typically serve? Who do you WANT to serve better?



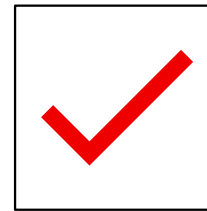
What ages or demographics do you want to engage? What might engage them?



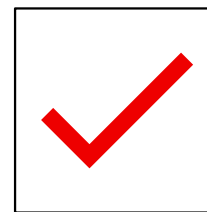
When and where should the program happen?

STEM can look like many things

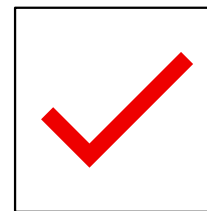
These activities can be stand-alone, but work especially well when a few are used together so that they complement one another



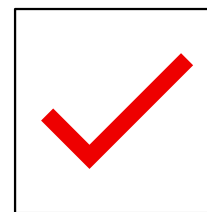
Hands-on activity stations



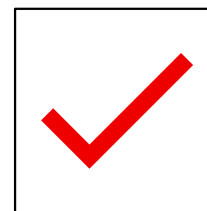
Activity kits for circulation



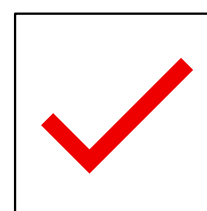
Various types of programs at the library (e.g., STEM story-time, STEM family nights, talks by science experts, hands-on programs for youth)



Displays



Contests and scavenger hunts



Programs outside of the library (e.g., at community events or other local venues)

Share in the Chat:

From YOUR experience,
what do you feel are
contributing factors to
successful STEM
programming in libraries?



How can integrating STEM into library programming benefit libraries and their communities?

STEM
programming can
help the
Community
recognize the
library is more
than books



STEM is popular!
STEM
programming can
help libraries
reach large
audiences,
including new
patrons



STEM programing
can reach patrons
from groups
underrepresented
in STEM
(including girls,
patrons of color,
patrons with
disabilities, and
rural audiences)



STEM programing
can help libraries
establish and
develop
partnerships



STEM programing
can increase
patrons' interest
and engagement
with STEM

“ We are the **perfect venue** to partner with organizations in order to increase STEM learning in our community. As a **trusted education provider that serves diverse audiences**, we have the resources and interest to be able to increase STEM learning in our community.

~Librarian

Share in the Chat:

What benefits have you
seen from doing STEM at
your library?



What's next?

Just Getting Started with STEM?

START SMALL

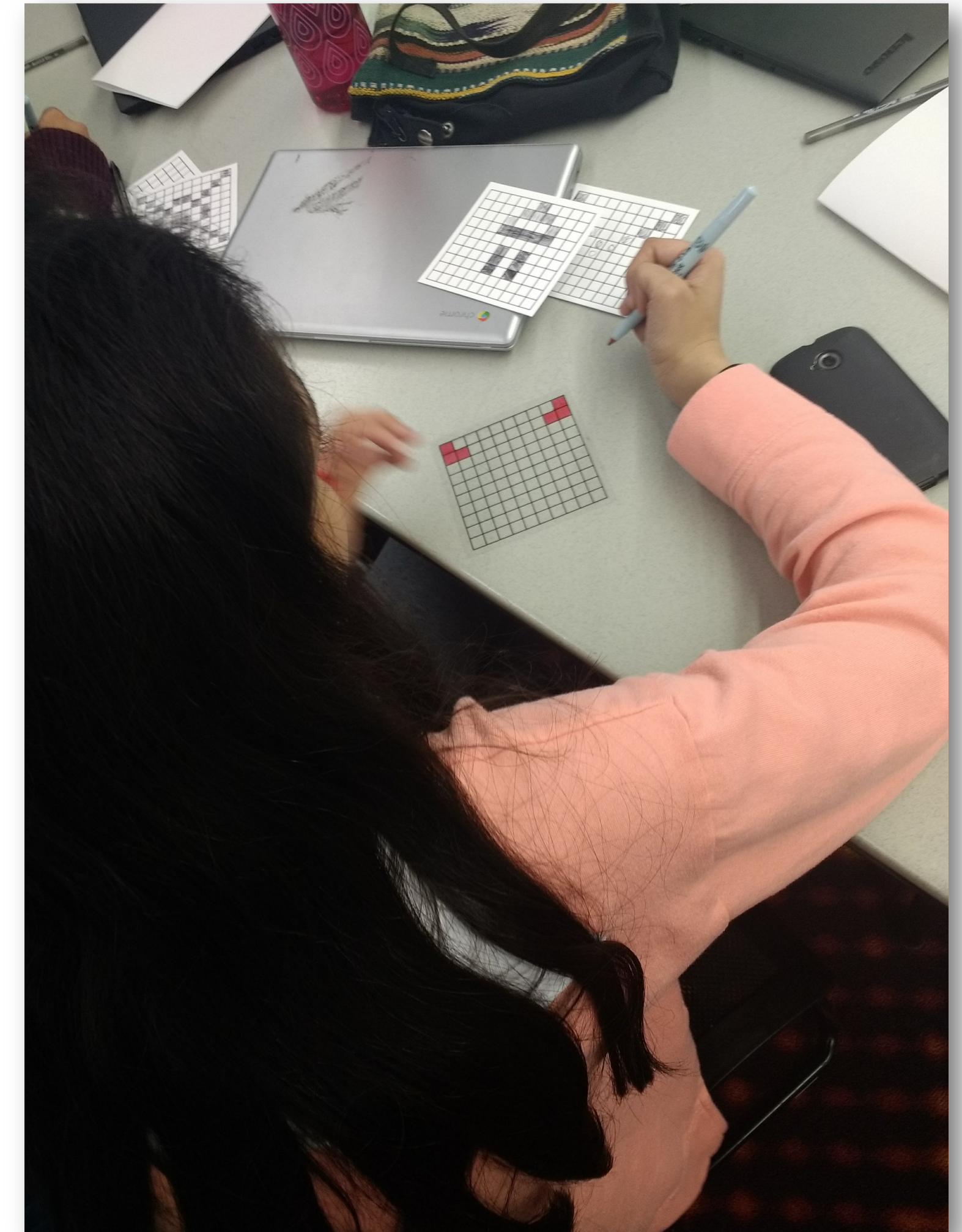
Try out a simple activity. It doesn't need to be complex to be engaging and informative.

LEARN FROM MORE EXPERIENCED PARTNERS

Bring in a partner with experience facilitating STEM programs and learn from them. Or visit programs at other organizations to see examples of STEM programs.

BUILD ON EXISTING PROGRAMS

Incorporate STEM into programs you are already comfortable with. Once a month make story-time a STEM story-time. This will help introduce STEM to both you and your patrons in a more familiar way.



Want to take the next step with STEM?

EXPLORE NEW TOPICS

Have you always had an interest in computers or engineering? Are you hearing that patrons really want to do more with chemistry? Try an activity in a new content area.

GO DEEPER WITH A SPECIFIC TOPIC

Are you noticing a lot of success with certain topics? Why not try it with a different age group? Or bring in a different type of activity? Or create a larger-scale or longer-term program.

THINK ABOUT NEW AUDIENCES

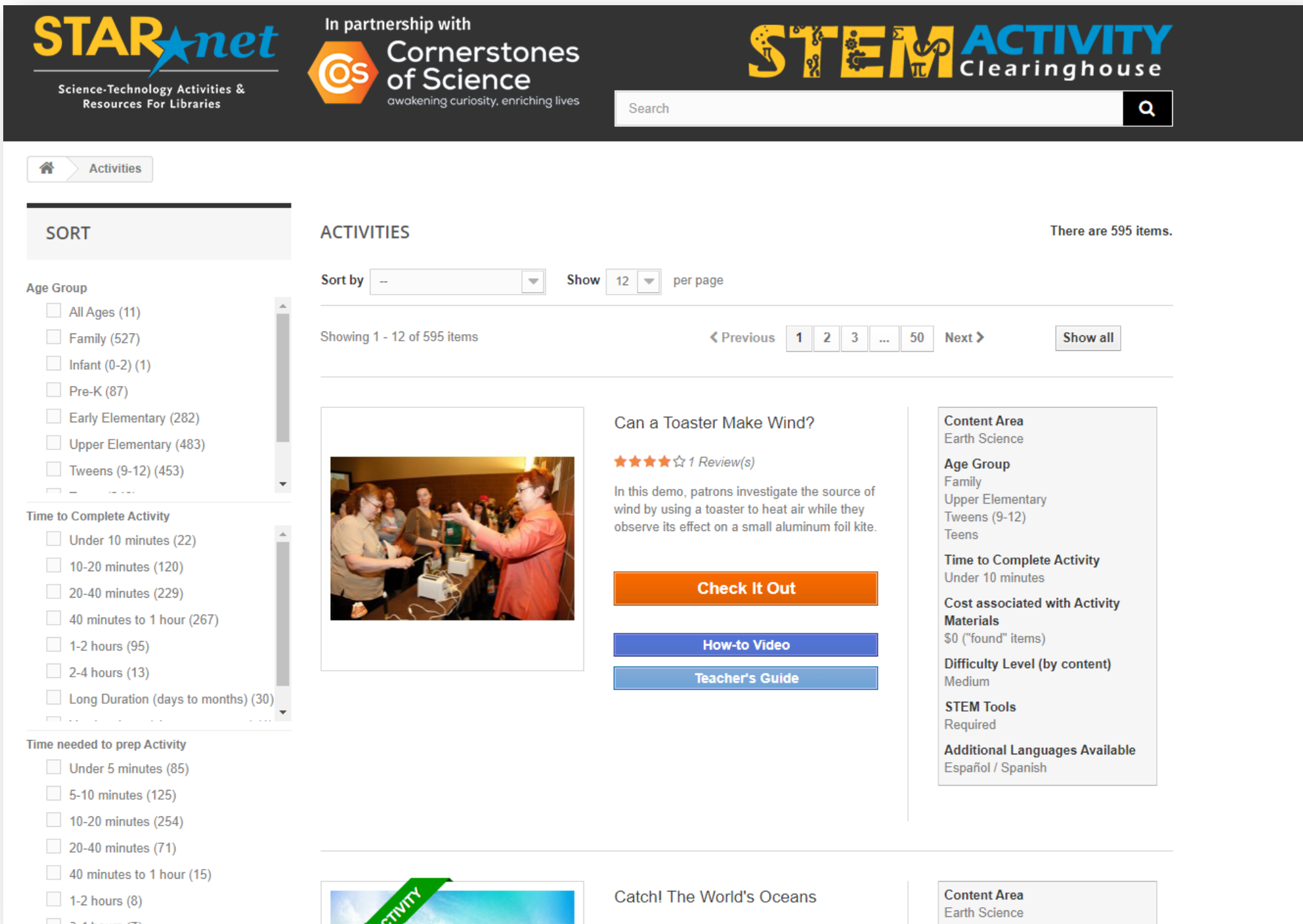
Are there audiences you'd like to reach that you haven't been able to? Look for community partners to help you connect with these audiences. STEM could be a draw to bring these audiences in.



STAR Net STEM Activity Clearinghouse

<http://clearinghouse.starnetlibraries.org/>

Filter by age group, cost, mess level, and more!

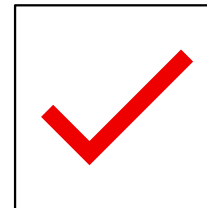


Other Resources

- Earth and Space Science:
<https://www.nasa.gov/stem/foreducators/informal>
- Engineering:
https://dreambigfilm.com/portfolio_category/activities/
- General STEM Resources for Libraries:
<https://starnetlibraries.org>
<https://stemlibraries.org>

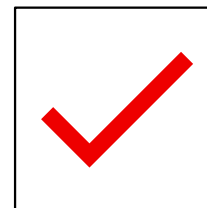


Remember: You
Have A Lot to
Offer and You
Don't Have to Do
It Alone



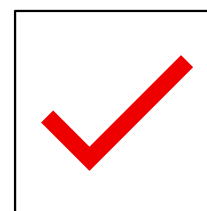
YOU ALREADY KNOW MORE THAN YOU THINK

Librarians know their patrons and have connections with their community. Build on these assets.



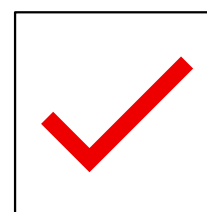
BUILD A SYSTEM OF SUPPORT

Seek out people to support you. They could be others at your library, other libraries, or individuals in your community.



THERE ARE A LOT OF RESOURCES AVAILABLE

Many resources are available for free online. Try something out and see how it goes!

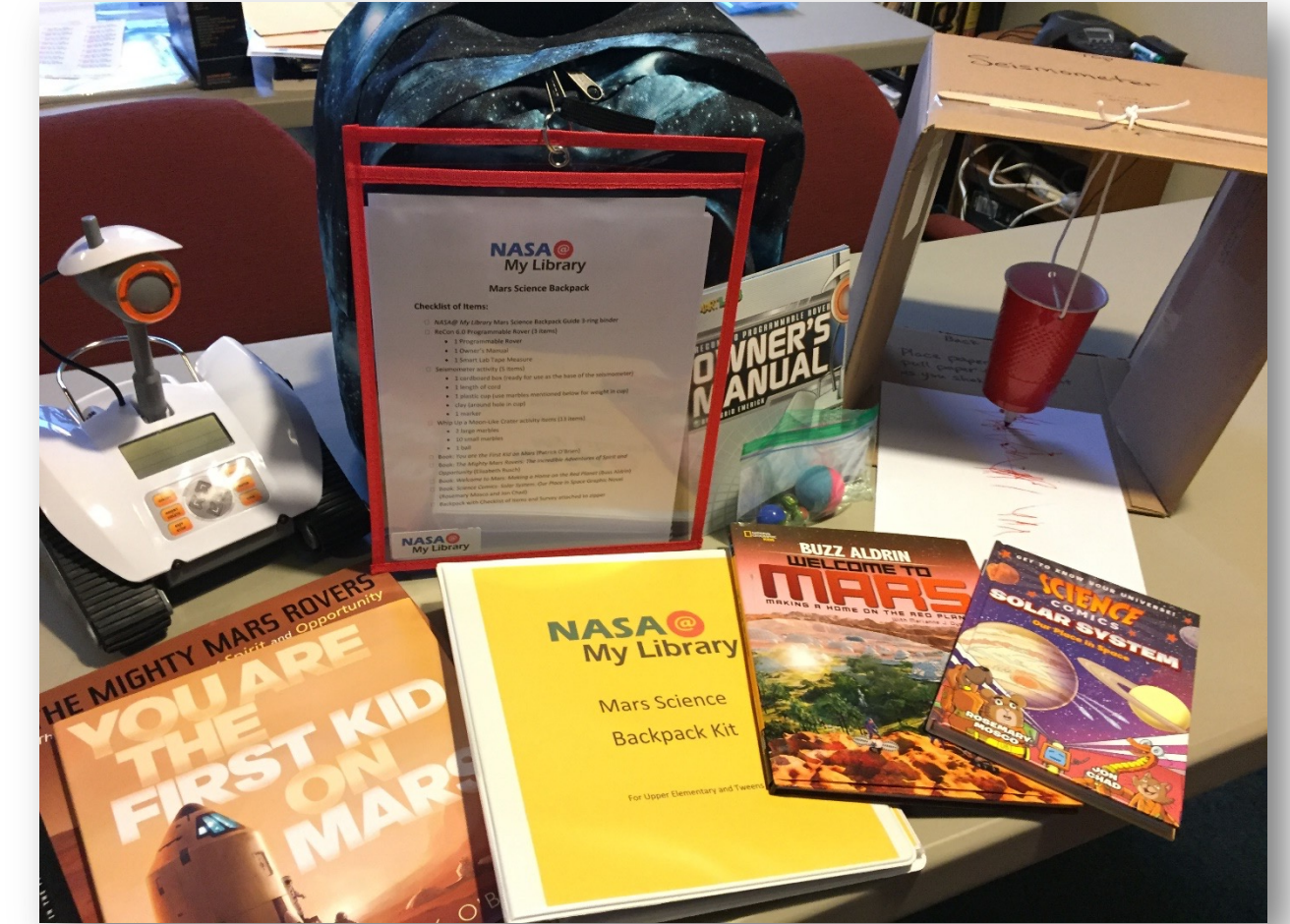


HAVE FUN!

Patrons of all ages love STEM. Have fun exploring and trying things out together.

Share in the Chat:

What STEM strategy are you most excited to try out in your library?



Questions and Discussion

Get in touch!



<https://www.edc.org/>



Ginger Fitzhugh
gfitzhugh@edc.org



Jennifer Jocz
jjocz@edc.org

Final Poll

PLEASE HELP US, HELP YOU!



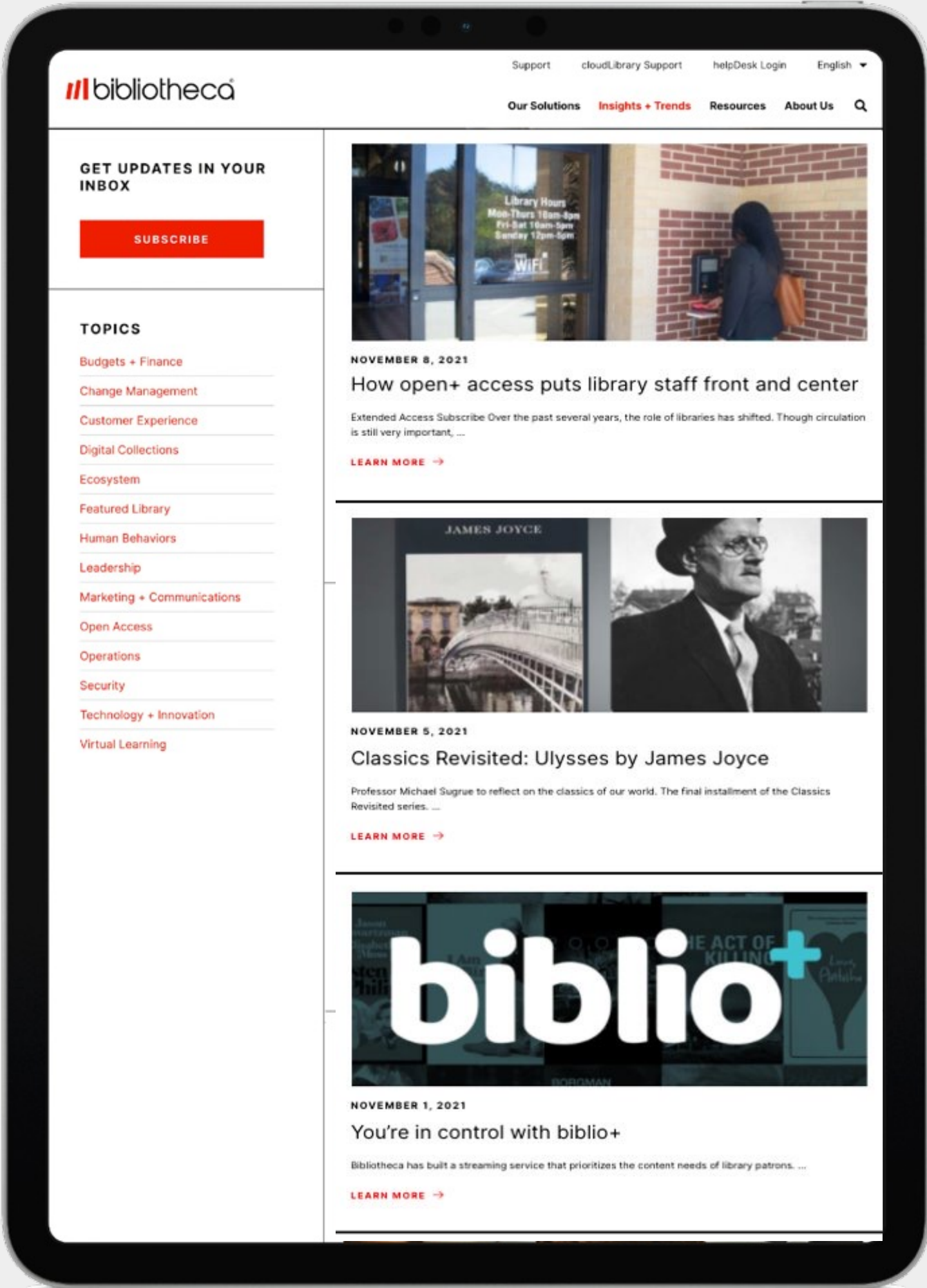
Learn from library leaders around the world

Catch up on-demand and join the discussion live with global leaders: bibliothecca.com



“This was great. I learned a lot, especially about what more I need to learn. The presentation was clear, precise, and at a great level of understanding. Thank you.”

Webinar attendee, 2021





Thank you.


"Imagining future library potential,
engineering real library solutions"



EDC Education
Development
Center

 **bibliotheca**[®]

 sales@bibliotheca.com

 1.800.328.0067

 www.bibliotheca.com