NISE
NATIONAL INFORMAL STEM EDUCATION NETWORK

# COLLABORATIONS

## Partnerships with Community Organizations and Libraries

# Presenters

- **Brad Herring,** Museum of Life and Science, Brad.Herring@lifeandscience.org
- **Anne Holland,** Space Science Institute, aholland@spacescience.org
- **Ray Vandiver,** Discovery Lab, rvandiver@discoverylab.org
- **Stacey Forsyth,** CU Science Discovery, stacey.forsyth@colorado.edu
- **Allison Schwanebeck,** Science Center of Iowa, allison.schwanebeck@sciowa.org

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# SPACE SCIENCE INSTITUTE

# NASA@ My Library

- 70 Partner Libraries
- 18 State Library Partners
- NASA Network Connections
- Opportunities for Scientist Involvement

## Kits

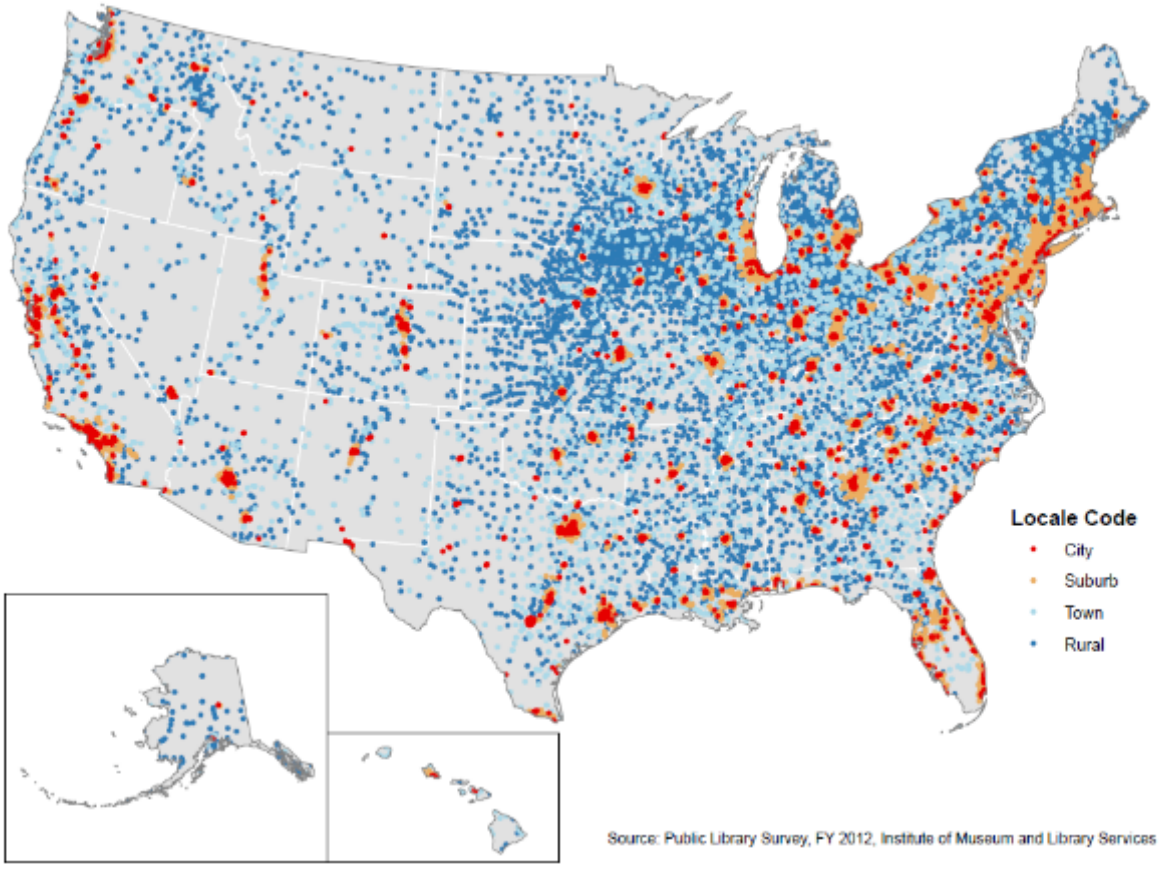
## Events

## Training

# 77% of public libraries serve populations of less than 25,000 people

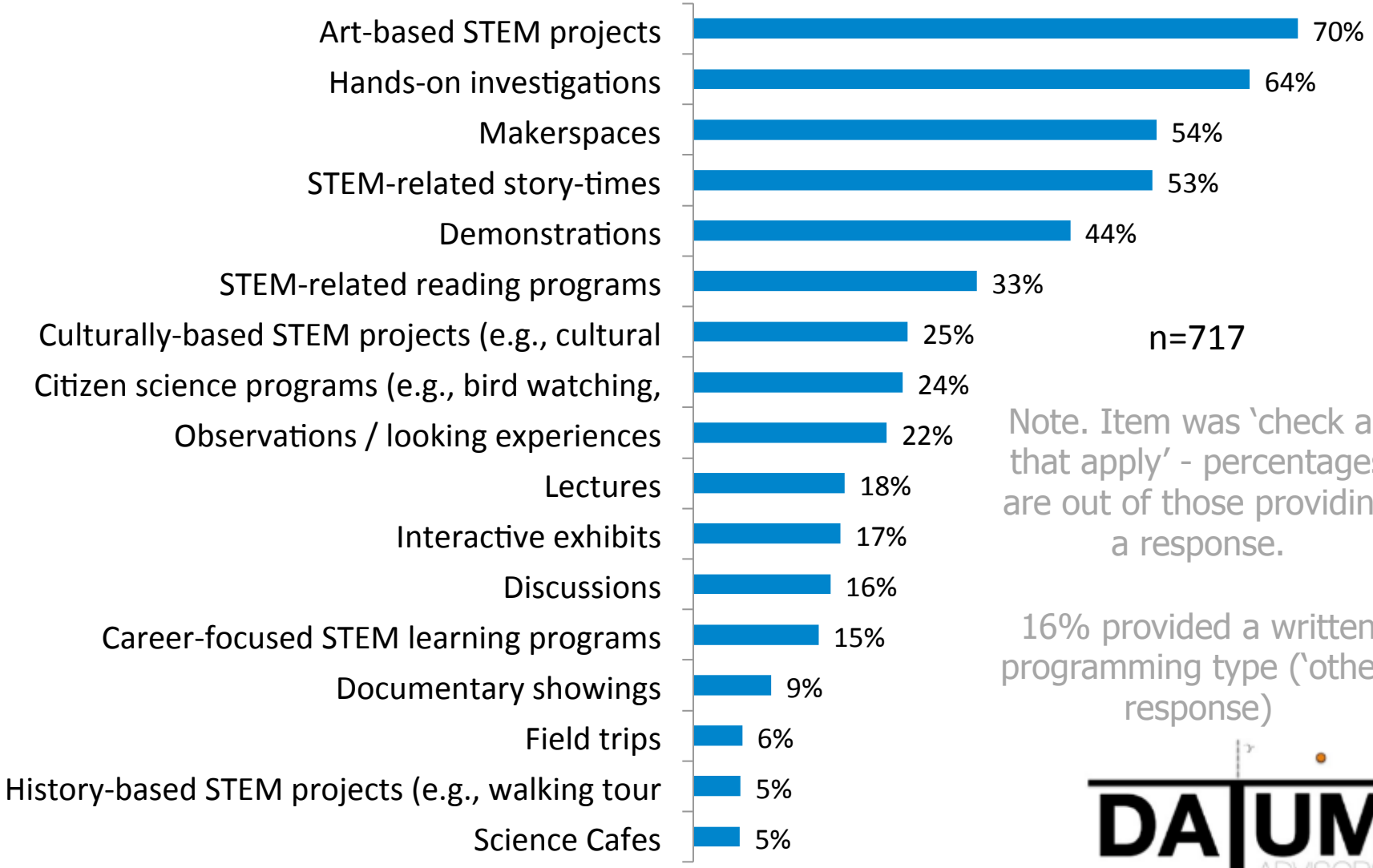
- **9,000 public libraries**
- **1.5 billion visits per year**
- **Latino Use: 72%**
- **African-American Use: 69%**

Figure N-1. Public Library Outlets in the United States, Fiscal Year 2012




Source: Public Library Survey, FY 2012, Institute of Museum and Library Services

# Type of STEM Programming (2017)

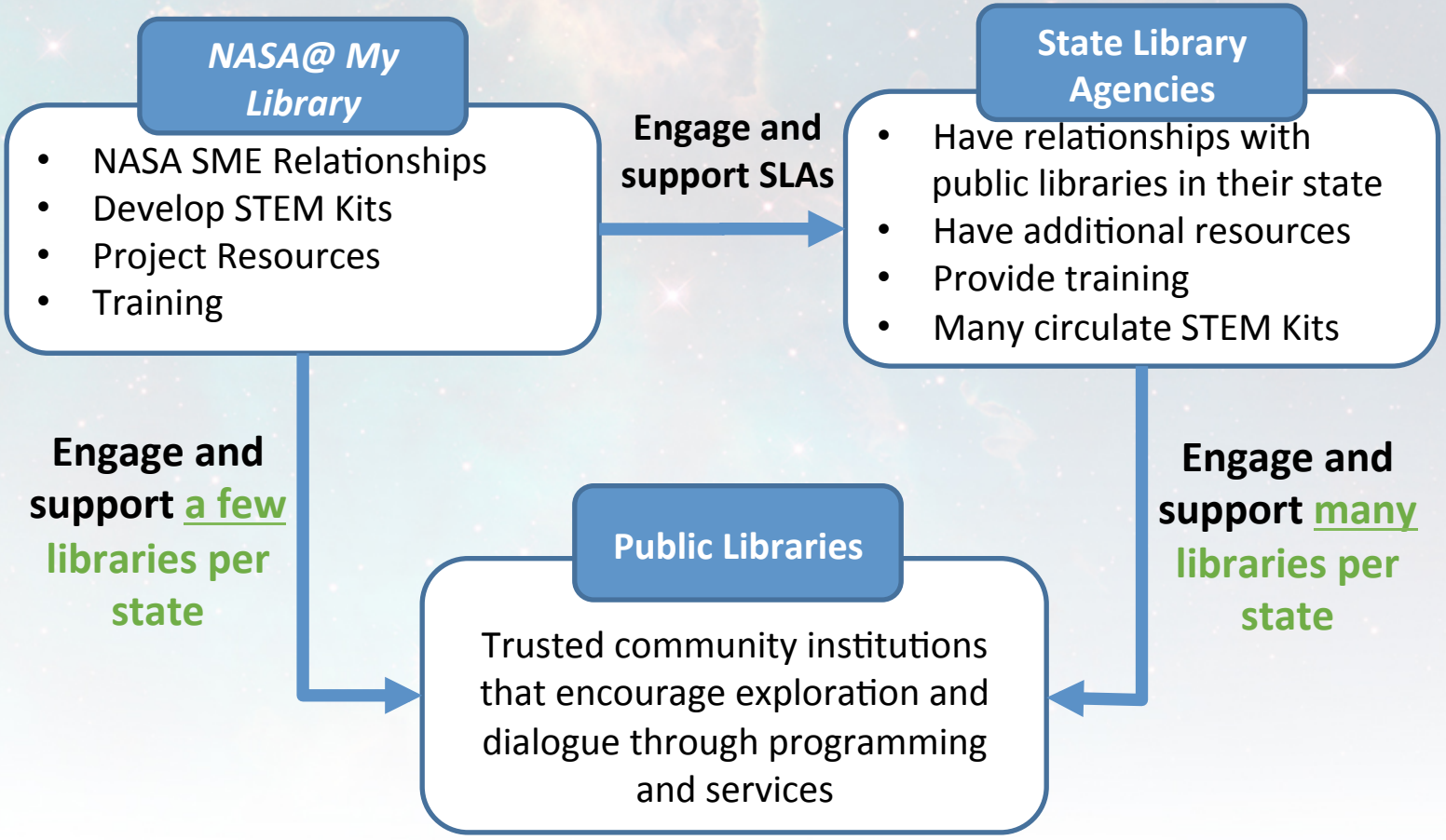



n=717

Note. Item was 'check all that apply' - percentages are out of those providing a response.

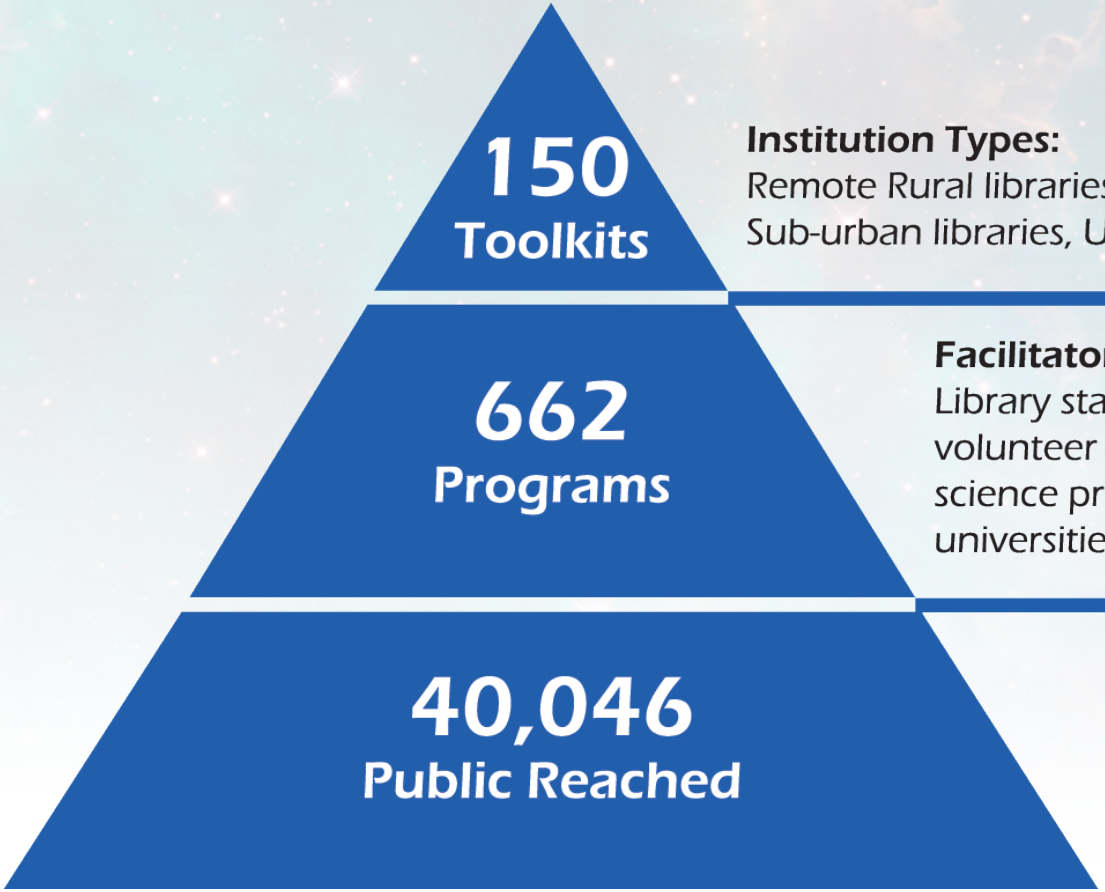
16% provided a written programming type ('other' response)

DATUM ADVISORS




# Collective Impact!

# Programs Conducted Nov. 2017 – Oct. 2018

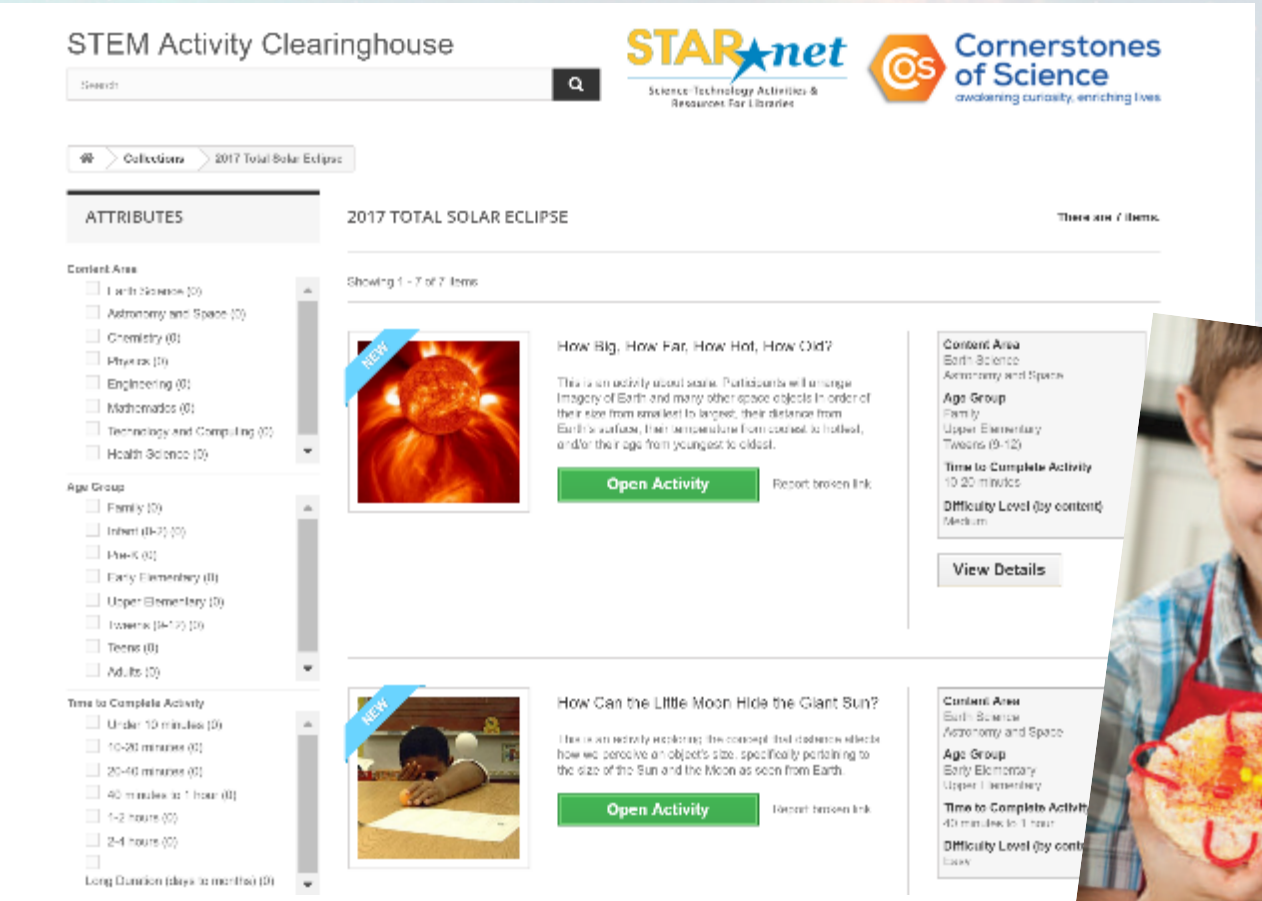



**Institution Types:**
Remote Rural libraries, Rural libraries, Sub-urban libraries, Urban libraries

**Facilitators Included:**
Library staff, Library volunteers, NASA volunteer members, Earth and space science professionals from colleges/ universities, other

**Underserved Audiences Reached:**
Girls, Low-income populations, Racial and ethnic minorities, Rural communities, other

# STEM Activity Clearinghouse




For example:
DIY Sun Cookies

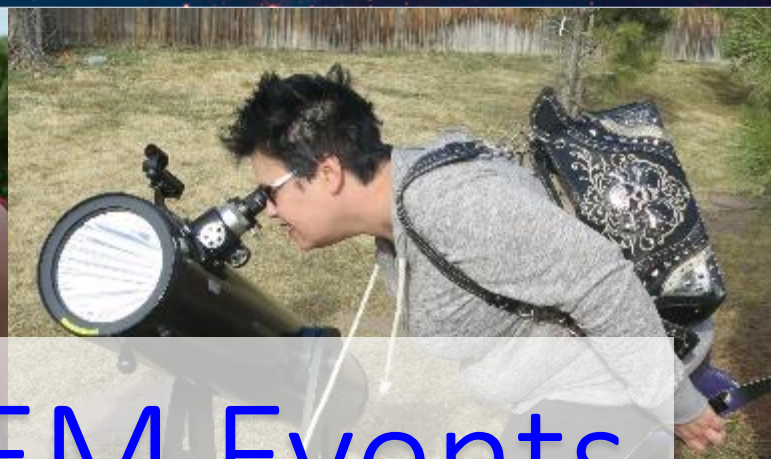
NASA@ My Library

A National Earth and Space Science Initiative that Connects NASA, Public Libraries and their Communities

SPACE SCIENCE INSTITUTE

NCIL National Center for Interactive Learning

# High-impact STEM Events to Foster Collaboration



Doug Ming
Astromaterials Research & Exploration Science Division
NASA Johnson Space Center

# Community Dialogues: Stakeholder Engagement

1. Strengthen librarians' roles in establishing a STEM Learning Environment

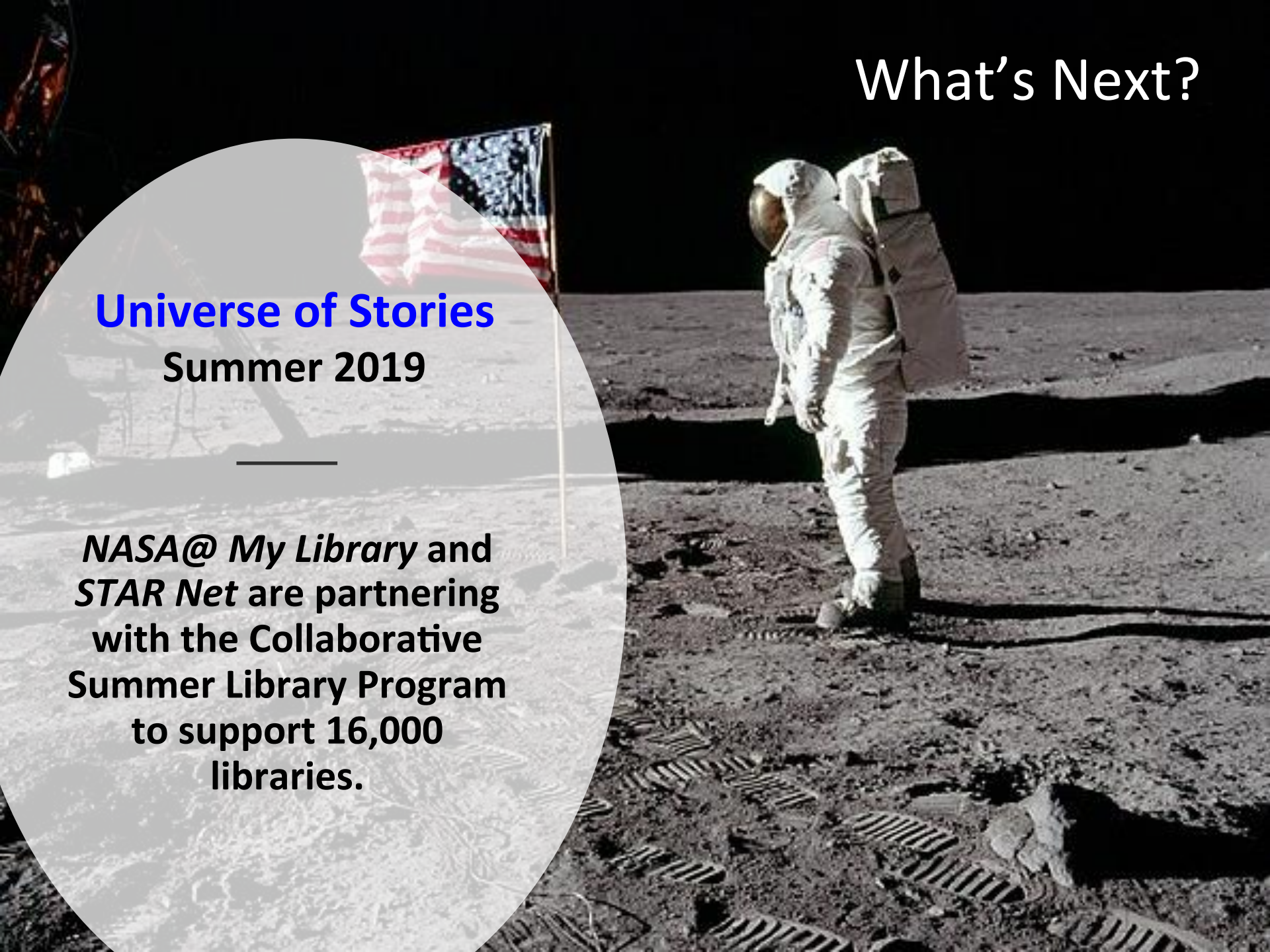
2. Identify underrepresented community groups

3. Identify possible collaborations and partnerships within the community

4. Contribute to developing a flexible Community Dialogue model that all libraries can use

Learning Ecosystems
Collective Impact
Community Dialogues
Key Stakeholders

# What's Next?



## Universe of Stories

**Summer 2019**

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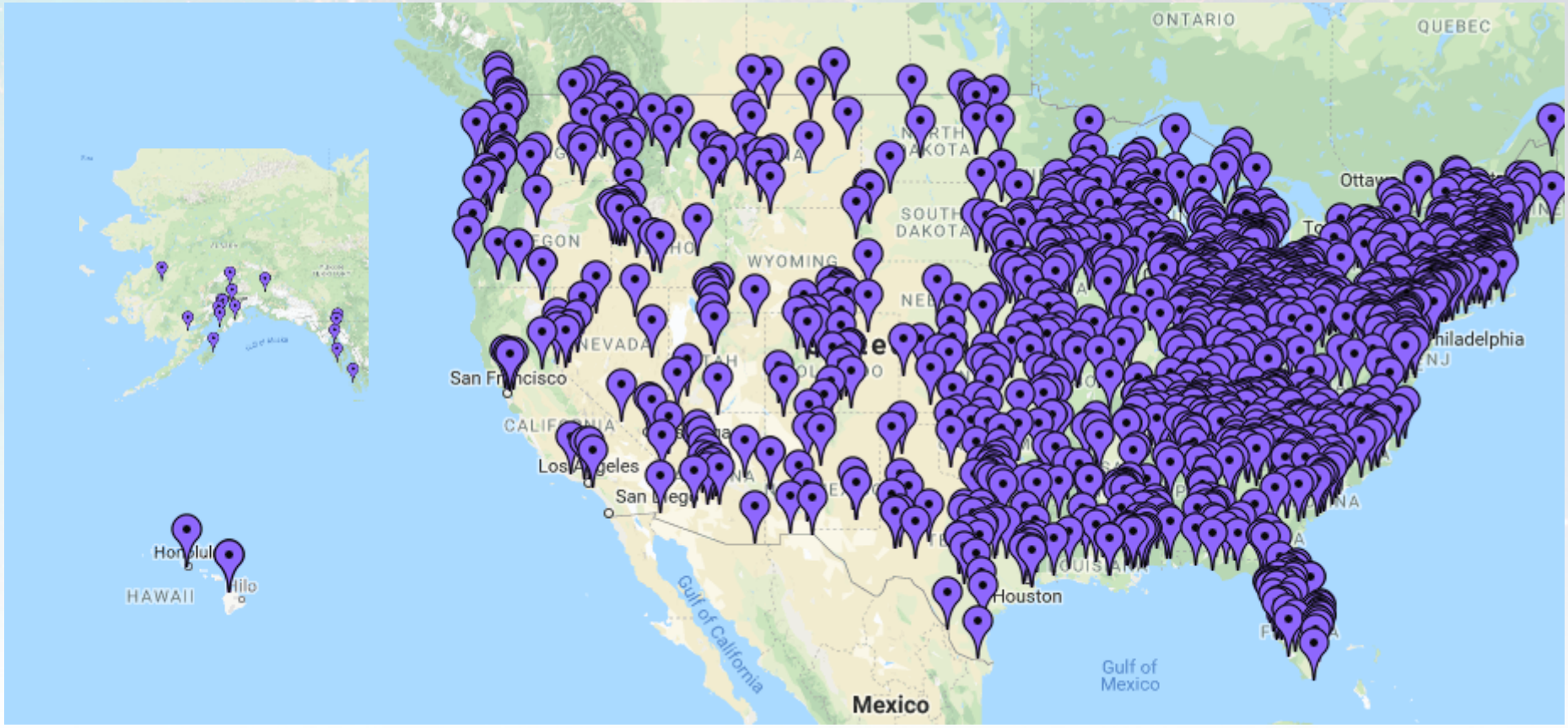
***NASA@ My Library*** **and** ***STAR Net*** **are partnering with the Collaborative Summer Library Program to support 16,000 libraries.**

NASA@ My Library

A National Earth and Space Science Initiative that Connects NASA, Public Libraries and their Communities

SPACE SCIENCE INSTITUTE

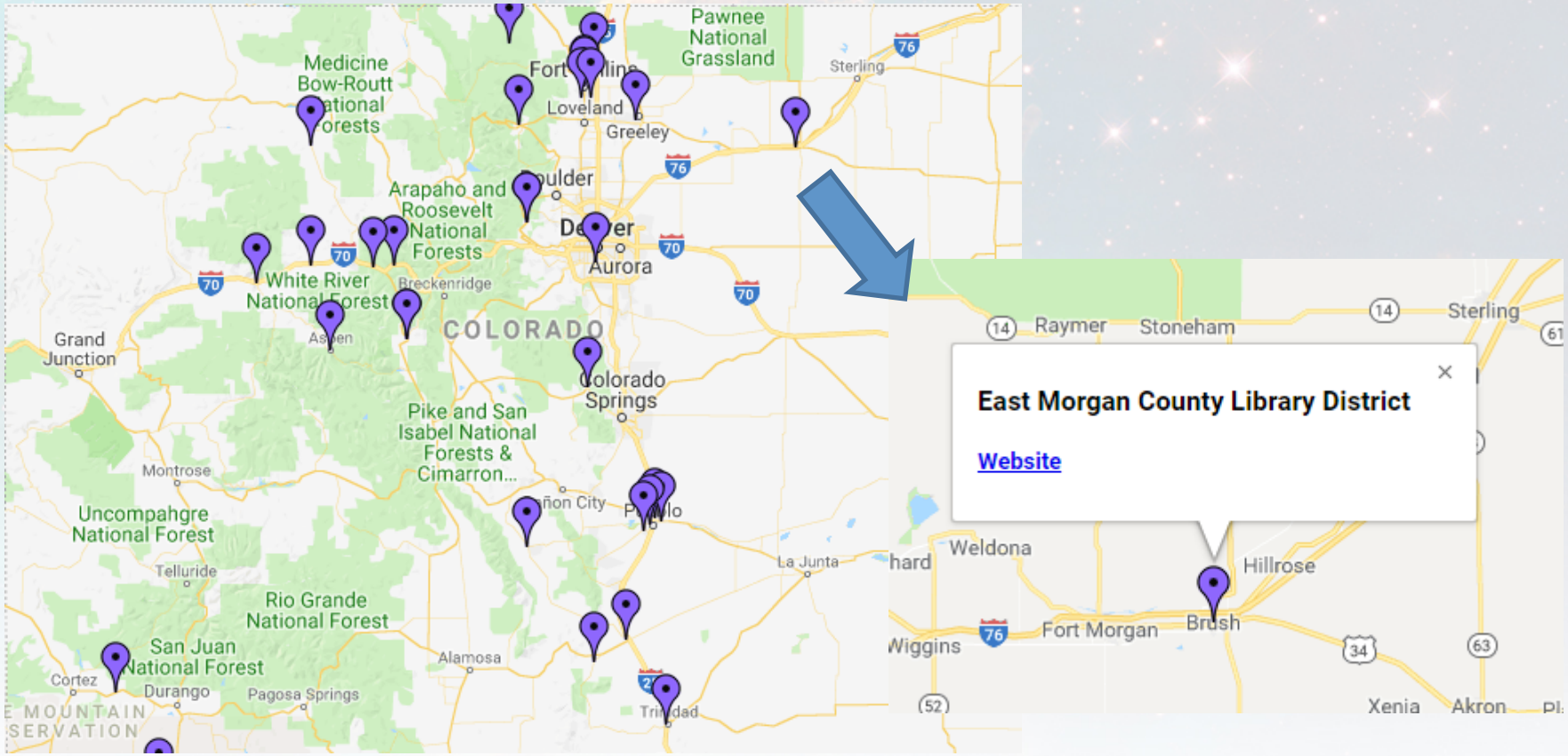
NCIL National Center for Interactive Learning




ALA American Library Association | Cornerstones of Science | LUNAR AND PLANETARY INSTITUTE | PACIFIC SCIENCE CENTER | EDC Education Development Center | Chief Officers of COSLA State Library Agencies

NASA@ My Library

A National Earth and Space Science Initiative that Connects NASA, Public Libraries and their Communities



For contact info of libraries registered on the map, contact Stephanie Vierow-Fields (svfields@spacescience.org)

For other questions, contact Anne Holland (aholland@spacescience.org)

And come visit us at our showcase table after this session!!

# DISCOVERY LAB

# Purposeful Partnership

## *Nano* Mini-Exhibition &
## Tulsa Housing Authority

# Discovery Lab

- Established in 2008, opened in 2013
- Our mission is to inspire children, connect families, and build community through exploration, exhibits, programming, and play.
- 118,000 impacted through on-site and outreach attendance

# Accessible Discovery

- Since opening, the Board has mandated 25% of all programming be delivered at a free or reduced rate
- School-based delivery: 4,500 students attend field trips, museum education, and outreach programming each year
  - Schools apply for funding for the whole school
  - 90% or higher free/reduced lunch rate
  - Transportation is included

# Accessible Discovery: Community Partners

- Community organizations determine what programming best serves their client families
- We work to establish mission alignment so programming compliments the objectives of the peer groups
- Notable Partnerships:
  - Women in Recovery
  - Parenting in Jail
  - Parent Child Center
  - Domestic Violence Intervention Services
  - SoonerStart

# City of Tulsa Housing Authority

- 9 “Family Sites” with community centers and Site Coordinators
- Programming Includes:
  - Monthly outreach classes
  - Field trips to the museum
  - Summer Block Party
  - Guest passes
- Transportation is the biggest barrier for families to visit the museum

# City of Tulsa Housing Authority

- THA expressed interest in offering their families more exposure to Discovery Lab activities.
- *Nano* offered the opportunity to bring the museum to the residents
  - 8 weeks per site
  - One outreach class related to Nano during the exhibition
  - THA hosted a Grand Opening at each site

# *Nano* Tour

- Parkview Terrace was the first location
- Students ages 4-17
- Average dwell time was 18 minutes
- Some students stayed over 30 minutes during their first visit

# *Nano* Tour

- 5 sites have hosted the exhibition to date
- Some challenges:
  - Staffing changes at THA
  - Facility shut-down
- Some successes:
  - High dwell times
  - Repeat visits

# *Nano* Tour

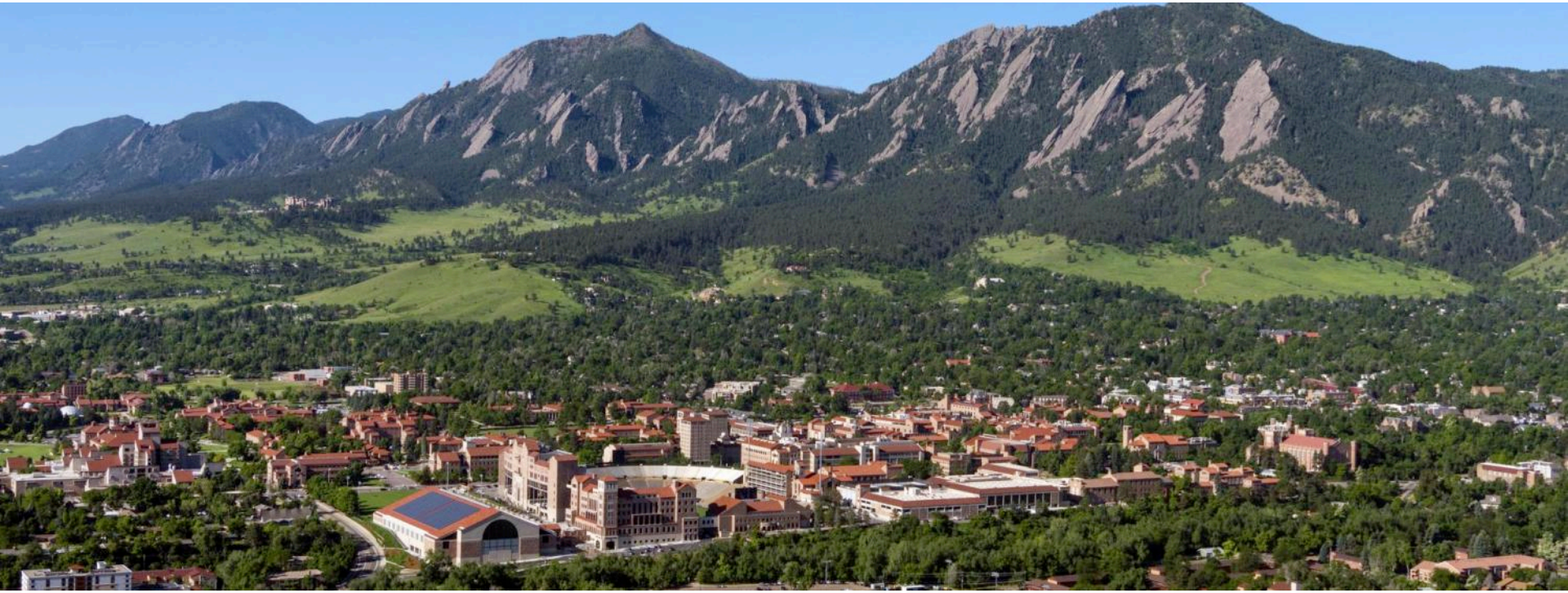
- The museum has enjoyed increased interaction with THA residents and staff.
- Educators facilitate the exhibit's activities and start conversations with the students, increasing engagement.
- Site coordinators are empowered to interact with the students.

# CU SCIENCE OF DISCOVERY

# Building Effective STEM Partnerships with Libraries

Stacey Forsyth
CU Science Discovery

NISE Net Partner Meeting
Tempe, AZ



# Science Discovery

UNIVERSITY OF COLORADO **BOULDER**

# Our New Home!

*Sustainability, Energy and Environment Community (SEEC) Building*

STEM Classes • Summer Camps • Teen Science Café • Teen Summer Research • Maker Programs • Teacher PD • School Programs • Science Communication Training • Field Science • Community Engagement

Our First
**NanoDays**
(2014)

# NanoDays 2015
## @ Boulder Public Library

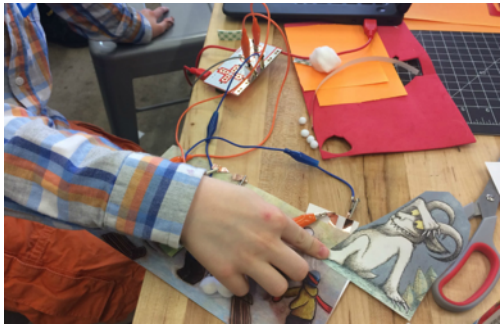
# Let's Do Chemistry 2018
@ Anythink Library

# Portal to the Public

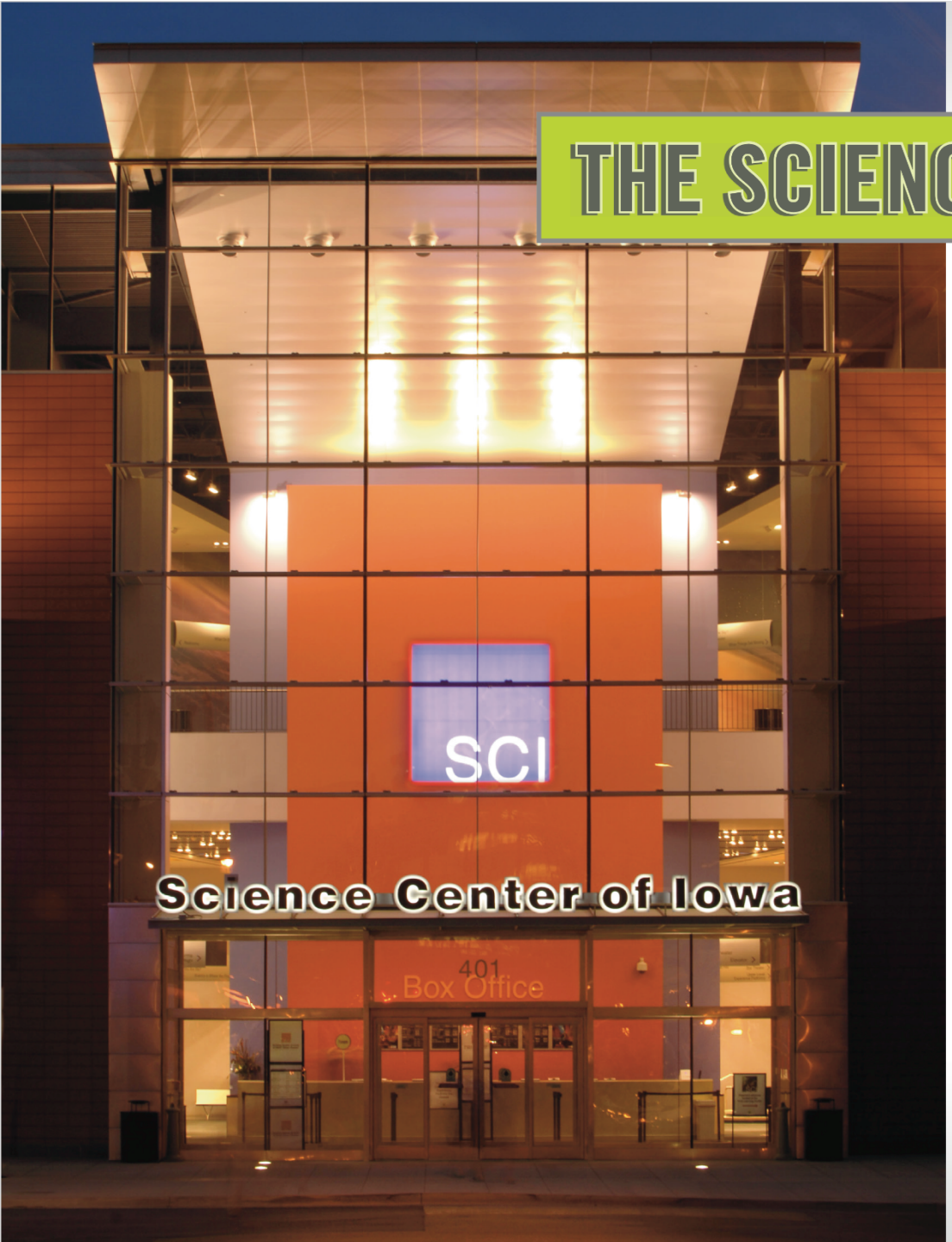
## Meet a CU Scientist

BUILD
A BETTER BOOK

**Makerspace Programs**
@ libraries



# SCIENCE CENTER OF IOWA

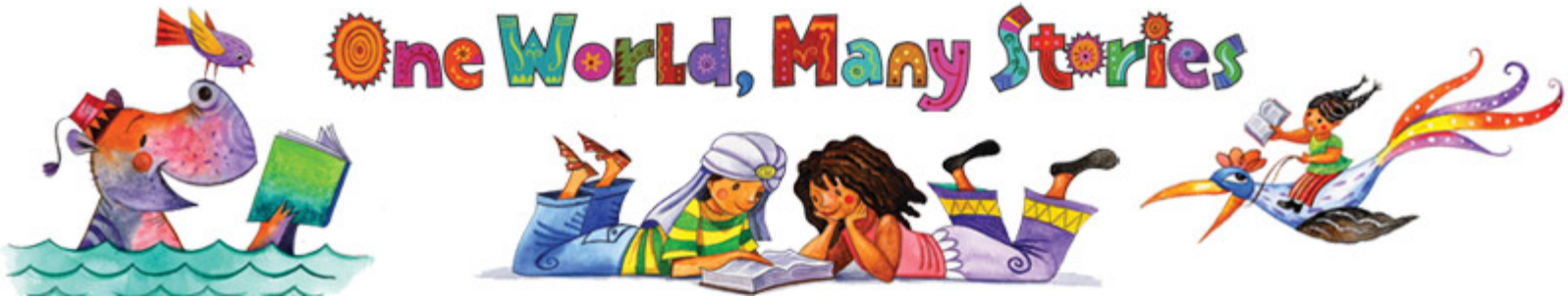



# THE SCIENCE CENTER OF IOWA

- Located in Downtown Des Moines
- Founded in 1970, Opened new location in 2005
- 300,000 participants annually
- Mission: SCI engages and inspires Iowans along their journey of lifelong science learning

# Connecting Libraries & STEM Programming

- Opportunity:
  - Libraries are an effective way to reach a broader audience across the state as well as underserved audiences of rural communities
- Challenges:
  - Although SCI provides outreach programming across the state, many libraries didn't see us as a resource for programming or content.
  - How do we reach librarians?
  - Many libraries are working with a limited budget
- Solutions:
  - Align science content to library programming
    - Collaborative Summer Library Program www.cslpreads.org
    - 30 years of past and future themes are posted through 2022
    - Was invited to the showcases librarians attended book their summer programming
  - Pricing: $200 flat fee for a 45 minute program
    - We offer a $50 discount if libraries in a 50 mile radius collaborate and book on the same day




- Our Small World: SCI Outreach Program
  - 2011 second year of aligning content, 300 participants
  - NISE mini-grant provided resources & utilized Nano Days tool kit for content development
  - New partnership with Assistant Professor at Iowa State University Department of Chemical and Biological Engineering as a content advisor
    - Bonus! Professors and students volunteered for NANO Days 2012

# Growth & Looking Forward

- 2018: 41 libraries and over 2500 in participants,
  - annual participation fluctuates by year depending on topic but we have seen steady growth and consistent booking since 2011.
- Future: looking to possibly “tour” NISE mini-exhibits to rural libraries

# Explore Science: Earth & Space Tool Kit

**Star Parties**
Once a month weather permitting
Located at SCI or Des Moines City Park

**2017 Solar Eclipse**

Outside the Iowa State Capital

2500 participants

- Partnerships with:
  - Des Moines Parks & Recreation, Des Moines Astronomical Society, Drake University, Solar System Ambassadors, Iowa Space Grant Consortium
- Utilize tool kit activities to supplement content with staff and volunteers at targeted events

# Achieving Maximum Potential (AMP)

- AMP is a statewide network of youth councils made up of youth aged 13-21 effected by out of home placement (foster, adoptive, kinship, shelter, residential or group care).
- We utilized a variety of NISE tool kits to create a series of 6 workshops each around a specific theme.

# NISE NET RESOURCES

# Collaboration Tools & Resources

NISE network
NANOSCALE INFORMAL SCIENCE EDUCATION

**MUSEUM & COMMUNITY PARTNERSHIPS:**

## Collaboration Guide

*For museums working with community youth-serving organizations*

By Catherine McCarthy and Brad Herring

# Collaboration Tips

1. Why collaborate? To achieve something you can't do on your own!

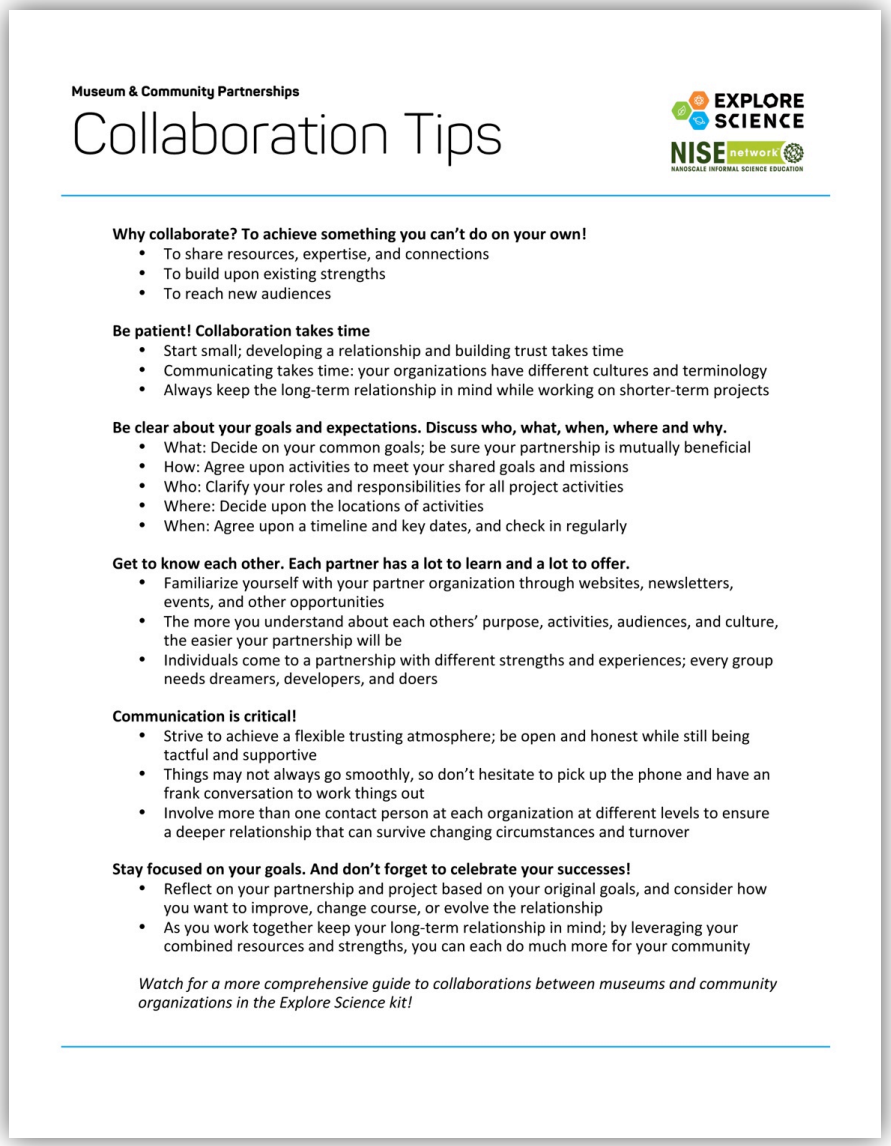
2. Be patient! Collaborations take time.

3. Be clear about your goals and expectations.

4. Get to know each other. Each partner has a lot to offer.

5. Communication is critical.

6. Stay focused on your goals. And don't forget to celebrate your successes!



Museum & Community Partnerships

Collaboration Tips

EXPLORE SCIENCE

NISE network

NANOSCALE INFORMAL SCIENCE EDUCATION

**Why collaborate? To achieve something you can't do on your own!**

- To share resources, expertise, and connections
- To build upon existing strengths
- To reach new audiences

**Be patient! Collaboration takes time**

- Start small; developing a relationship and building trust takes time
- Communicating takes time: your organizations have different cultures and terminology
- Always keep the long-term relationship in mind while working on shorter-term projects

**Be clear about your goals and expectations. Discuss who, what, when, where and why.**

- What: Decide on your common goals; be sure your partnership is mutually beneficial
- How: Agree upon activities to meet your shared goals and missions
- Who: Clarify your roles and responsibilities for all project activities
- Where: Decide upon the locations of activities
- When: Agree upon a timeline and key dates, and check in regularly

**Get to know each other. Each partner has a lot to learn and a lot to offer.**

- Familiarize yourself with your partner organization through websites, newsletters, events, and other opportunities
- The more you understand about each others' purpose, activities, audiences, and culture, the easier your partnership will be
- Individuals come to a partnership with different strengths and experiences; every group needs dreamers, developers, and doers

**Communication is critical!**

- Strive to achieve a flexible trusting atmosphere; be open and honest while still being tactful and supportive
- Things may not always go smoothly, so don't hesitate to pick up the phone and have an frank conversation to work things out
- Involve more than one contact person at each organization at different levels to ensure a deeper relationship that can survive changing circumstances and turnover

**Stay focused on your goals. And don't forget to celebrate your successes!**

- Reflect on your partnership and project based on your original goals, and consider how you want to improve, change course, or evolve the relationship
- As you work together keep your long-term relationship in mind; by leveraging your combined resources and strengths, you can each do much more for your community

*Watch for a more comprehensive guide to collaborations between museums and community organizations in the Explore Science kit!*

# Text for contacting potential partners

## Sample text for an invitation to collaborate email

**Subject: Invitation to collaborate on a STEM project with < organization's name>**

Dear <Contact at local youth-serving organization>,

I recently learned about an opportunity to engage under-served children in our community with STEM, and I wonder if it might be a mutually beneficial chance for our organizations to collaborate on this project.

The <My organization> has the opportunity to apply for a free "Explore Science" kit of materials designed to help museums collaborate with a local youth-serving organization to reach underserved children in our community and engage them in nanotechnology.

<My organization> has been collaborating with a national network of museums and scientists for the past several years called the Nanoscale Informal Science Education (NISE) Network, which is dedicated to fostering public awareness, engagement, and understanding of nanoscale science, engineering, and technology. We have received other kits from the Network in previous years, and they are filled with many fun, hands-on activities that work well with a wide range of audiences including younger children, which will be incorporated into the Explore Science kit. The activities in the Explore Science kit are designed for children in grades 1-6 in afterschool programs, family science nights, and other out-of-school settings

Partnering on this project would be a great way to engage children in our community on this exciting new field of science and technology. I am planning to submit an application, and I would like to invite you and your colleagues to collaborate with us on programming that uses the Explore Science kit focused on nanoscience. One requirement for the application is that we are required to specify our community partner and briefly describe our proposed plans for collaboration.

<Insert brief, personalized sentence about what value the museum can provide to the community organization—how do the two organizations' missions may align>

To help you decide if you would like to discuss this opportunity further, I'm including some background information about the project below.

Would you please let me know by <date> if you are interested in learning more about this potential collaborative project? If you are, I'd like to set up a time for us to have a short conversation either in person or on the phone to discuss possible ways we can collaborate. I look forward to hearing from you.

- Friendly invitation to discuss possibilities
- Sets the stage to discuss roles and responsibilities

# Memorandum of Understanding

SAMPLE TEMPLATE

## MEMORANDUM OF UNDERSTANDING (MOU)

between

_____ (Organization A)

and

_____ (Organization B)

**Preamble:**
The purpose of this Memorandum of Understanding (MOU) is to clarify the expectations, roles, and responsibilities of the collaboration between our two organizations (Parties) on PROJECT XXXXXX (Project). This is not a legally binding agreement.

**Intent to Collaborate**
It is the intent of the Parties to jointly collaborate on the implementation of the Project.

**Background**
The Project has the following purpose:

- _____
- _____
- _____

**Timeline:**

- The overall project will take place between Date and Date.

The Project has the following key milestones

- _____
- _____
- _____

**Roles and Responsibilities**

**Both organizations will:**

- Communicate as needed about the implementation and progress of the project
- _____
- _____

**Organization A will provide:**

- Training/orientation (where/when): _____
- Activities/Implementation: (where/when/who) _____
- Evaluation/Reporting: (when) _____

**Organization B will provide:**

- Training/orientation (where/when): _____
- Activities/Implementation: (where/when/who) _____
- Evaluation/Reporting: (when) _____

**Coordination and Communication:**
Most of the communication about the Project will take place between the two primary contact people. The primary contact people for each organization are:

**Organization A - Primary Contact:**
**Name:** _____
**Phone:** _____
**Email:** _____

**Organization A - Additional Contact:**
**Name:** _____
**Phone:** _____
**Email:** _____

**Organization B - Primary Contact:**
**Name:** _____
**Phone:** _____
**Email:** _____

**Organization B - Additional Contact:**
**Name:** _____
**Phone:** _____
**Email:** _____

**Modifications to this MOU:**
This Memorandum may be modified with supplemental written agreements signed by the parties and can be terminated in writing, in whole or in part, by consensus of the parties.

**Acknowledgment:**
The following parties jointly agree to the roles and responsibilities delineated in this Memorandum of Understanding:

**Organization A:**
Organization Name: _____

Printed Name: _____

Signature: _____ Date: _____

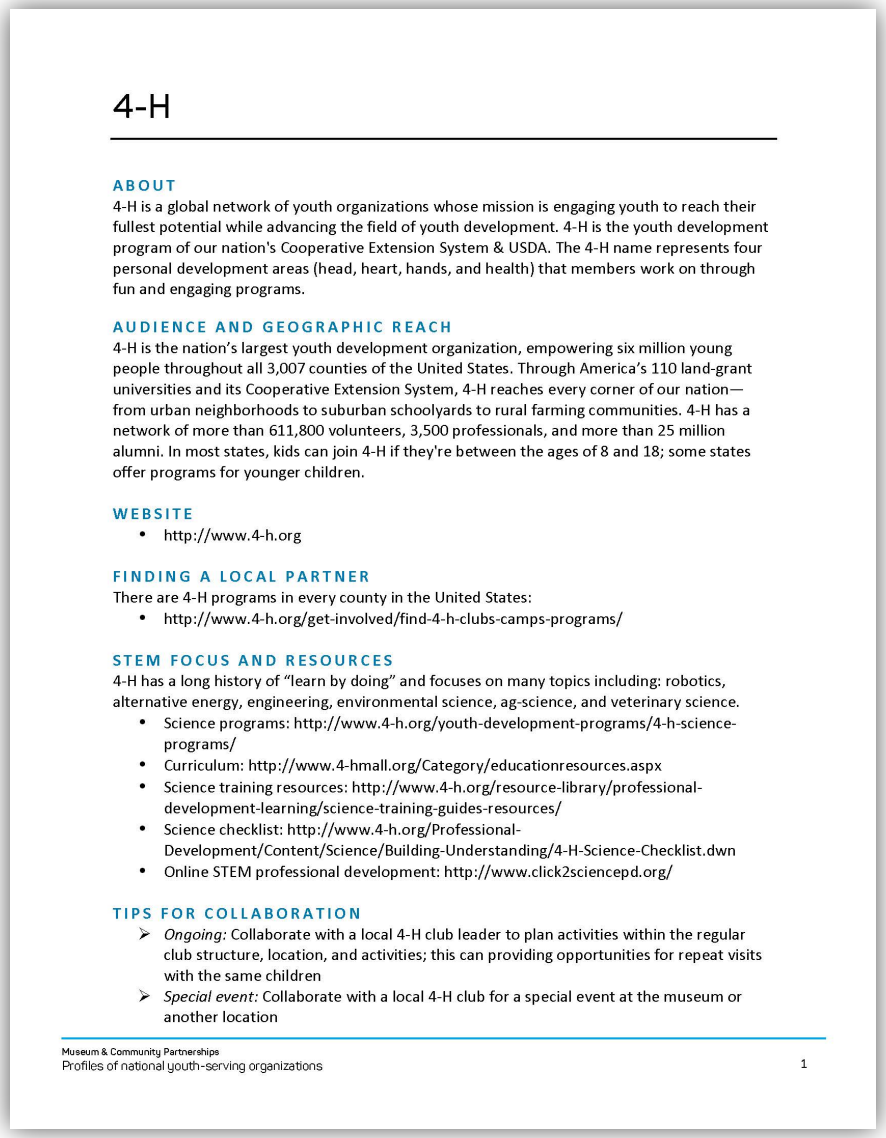
**Organization B:**
Organization Name: _____

Printed Name: _____

Signature: _____ Date: _____

# Profiles of Youth Serving Organizations

1. 4-H
2. Afterschool Alliance
3. Boys & Girls Clubs of America
4. Boy Scouts of America
5. Girls Inc.
6. Girl Scouts
7. Libraries
8. National Girls Collaborative Project
9. Parent Teacher Association (PTA)
10. Y (YMCA)
11. YWCA



## 4-H

### ABOUT

4-H is a global network of youth organizations whose mission is engaging youth to reach their fullest potential while advancing the field of youth development. 4-H is the youth development program of our nation's Cooperative Extension System & USDA. The 4-H name represents four personal development areas (head, heart, hands, and health) that members work on through fun and engaging programs.

### AUDIENCE AND GEOGRAPHIC REACH

4-H is the nation's largest youth development organization, empowering six million young people throughout all 3,007 counties of the United States. Through America's 110 land-grant universities and its Cooperative Extension System, 4-H reaches every corner of our nation—from urban neighborhoods to suburban schoolyards to rural farming communities. 4-H has a network of more than 611,800 volunteers, 3,500 professionals, and more than 25 million alumni. In most states, kids can join 4-H if they're between the ages of 8 and 18; some states offer programs for younger children.

### WEBSITE

- http://www.4-h.org

### FINDING A LOCAL PARTNER

There are 4-H programs in every county in the United States:

- http://www.4-h.org/get-involved/find-4-h-clubs-camps-programs/

### STEM FOCUS AND RESOURCES

4-H has a long history of "learn by doing" and focuses on many topics including: robotics, alternative energy, engineering, environmental science, ag-science, and veterinary science.

- Science programs: http://www.4-h.org/youth-development-programs/4-h-science-programs/
- Curriculum: http://www.4-hmall.org/Category/educationresources.aspx
- Science training resources: http://www.4-h.org/resource-library/professional-development-learning/science-training-guides-resources/
- Science checklist: http://www.4-h.org/Professional-Development/Content/Science/Building-Understanding/4-H-Science-Checklist.dwn
- Online STEM professional development: http://www.click2sciencepd.org/

### TIPS FOR COLLABORATION

- *Ongoing:* Collaborate with a local 4-H club leader to plan activities within the regular club structure, location, and activities; this can providing opportunities for repeat visits with the same children
- *Special event:* Collaborate with a local 4-H club for a special event at the museum or another location

# Annotated Bibliography

## Annotated Bibliography

### COLLABORATIONS – GENERAL

**Collaboration Toolkit**
Author: Center for Nonprofit Excellence (2012).
*Collaborative tools and resources including a toolkit.*
*Free online resources:*
*http://thecne.org/building-collaborative-relationships*
*http://thecne.org/collaboration*

**Partnerships: Frameworks for Working Together Strengthening Nonprofits: A Capacity Builder's Resource Library**
Author: Compassion Capital Fund (CCF) with assistance from Mark Publow; updated by the National Resource Center for DHHS (2010).
*This guidebook is designed for any organization or coalition of organizations that want to know more about establishing and managing partnerships.*
*Free online resources:*
*http://strengtheningnonprofits.org/resources/guidebooks/Partnerships.pdf*

**Building Effective Community Partnerships: Systems Improvement Training and Technical Assistance Project (SITTAP)**
Author: Institute for Educational Leadership for the US Department of Justice (2002), 35 pages.
*This toolkit is designed to provide ideas and links to other resources that will increase the capacity of demonstration projects engaged in systemic reform efforts to bring together organizations and individuals, develop shared goals, and implement strategies to achieve them.*
*Free online resources:*
*http://www.ccitoolsforfeds.org/doc/building_effective_community_partnerships.pdf*

**Collaboration Toolkit: How to Build, Fix, and Sustain Productive Partnerships**
Authors: Rinehart, Tammy A., Laszlo, Anna T., and Briscoe, Gwen O. (2001),
Washington, DC: U.S. Department of Justice, Office of Community Oriented Policing Services.
*Guide to collaboration related to community policing in collaboration with schools and community organizations.*
*Free online resources:*
*http://www.cops.usdoj.gov/html/cd_rom/collaboration_toolkit/pubs/collaborationtoolkit.pdf*

**Learning to Make Choices for the Future: Connecting Public Lands, Schools, and Communities through Place-based Learning and Civic Engagement**
Delia Clark (2012) The Center for Place-based Learning and Community Engagement.
*This manual was originally conceived through the work of the Forest For Every Classroom project and includes information on building and sustaining strong community partnerships.*
*Free online resources:*
*http://www.promiseofplace.org/assets/files/PBE_Manual_2012.pdf*

**Community Tool Box website**
Author: Work Group for Community Health and Development at the University of Kansas (accessed 2015).
*The Community Tool Box is a free online resource for those working to build healthier communities and bring about social change by connecting people, ideas, and resources.*
*Free online resources:*
*http://ctb.ku.edu/en/overview*

### COLLABORATIONS AND COLLECTIVE IMPACT

**The Big Picture Approach to Community Impact**
Author: The Forum for Youth Investment website (accessed 2015).
*Ready by 21 is the Forum for Youth Investments' initiative with strategies for communities and states to improve the odds that all children and youth will be ready for college, work and life. Extensive toolkit of resources for mapping strategies and measuring success.*
*Free online resources:*
*http://forumfyi.org/thebigpictureapproach*
*http://www.readyby21.org*

**STEM Ecosystems website**
Author: supported by the STEM Funders Network (accessed 2015).
*Cultivating a STEM learning ecosystem to meet the needs of all young people requires intentional and strategic action toward shared goals; includes collaborative planning tools.*
*Free online resources:*
*http://www.stemecosystems.org*

**Collective Impact Forum website**
Author: FSG and the Aspen Institute Forum for Community Solutions (accessed 2015).
*Tools, resources, and advice about collective impact.*
*Free online resources:*
*http://collectiveimpactforum.org*

**Charting a Course for Change: Advancing Education, Income, and Health Through Collective Impact**
Author: United Way, (2013).
*White paper and toolkit lays out the community strategies experts say work best to improve education, financial stability and health, and how you can turn strategies into action.*
*Free online resources:*
*http://www.unitedway.org/blog/charting-a-course-for-change*

# Video: Creating Successful Collaborations: Museum and Community Partnerships

*Available at: https://vimeo.com/139256428*

# Thank You

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NATIONAL INFORMAL STEM EDUCATION NETWORK

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