Leveraging Statewide Partnerships for Scalable Outreach

Sunday, September 30, 2018: 3:15 PM-4:30 PM

September 29–October 2
ASTC2018
Annual Conference

The NGCP Vision

The National Girls Collaborative Project **brings together organizations** committed to informing and encouraging girls to pursue careers in science, technology, engineering, and mathematics (STEM).

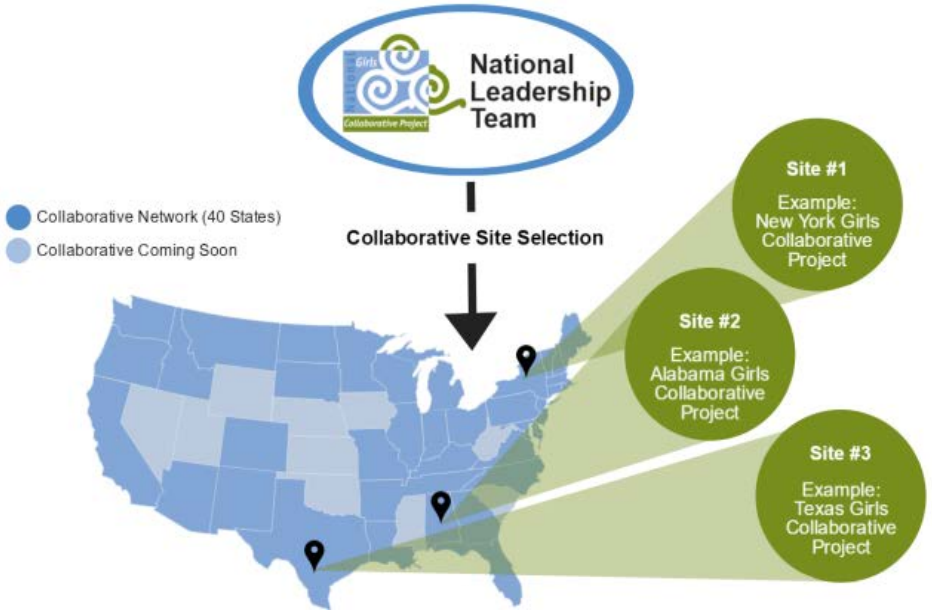
NATIONAL GIRLS COLLABORATIVE PROJECT

NGCP Goals

1. **Maximize access** to shared resources within organizations interested in engaging girls in STEM.

NATIONAL GIRLS COLLABORATIVE PROJECT

Network Projects: Scaling High Quality Curriculum



Train the Trainers and Dissemination of Resources to Collaborative Pilot Sites

+

Collaborative Leadership Team Members Trained by Content Specialists

NGCP Network Projects

techbridge
Inspire a girl to change the world

Crypto Club

Leap into science
Engineered by THE FRANKLIN INSTITUTE

SciGirls

Smithsonian
Latino Virtual Museum

CALIFORNIA ACADEMY OF SCIENCES
Science
ACTION CLUB

INVENTIONX

EmpowerHER

The Cornell Lab of Ornithology
Exploring and Conserving Nature

FabFems

NATIONAL GIRLS COLLABORATIVE PROJECT

National Girls Collaborative Project

Program #1
Example Audience: Educators/Staff at
GirlStart

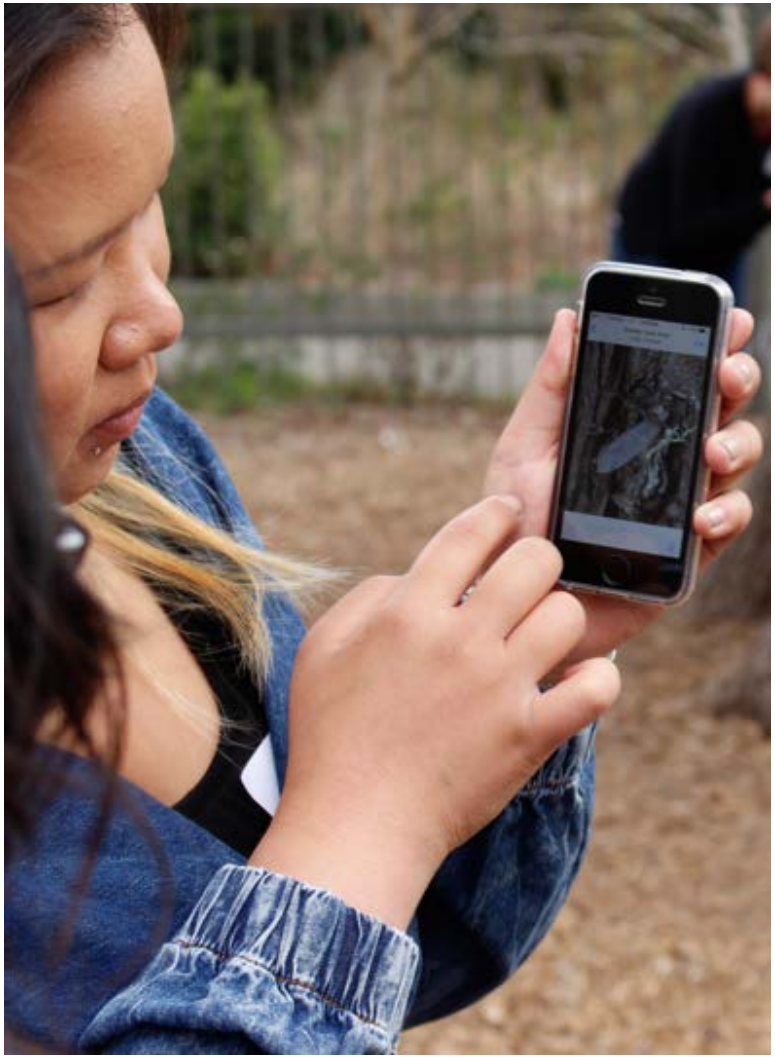
Program #2
Example Audience: Educators/Staff at
Girl Scouts

Program #3
Example Audience: Educators/Staff at
Boys and Girls Club

Training for educators and professionals working in local youth-serving STEM programs.

IMPACT

Community of Trained Educators Directly Impacting Youth in their Communities



CALIFORNIA ACADEMY OF SCIENCES

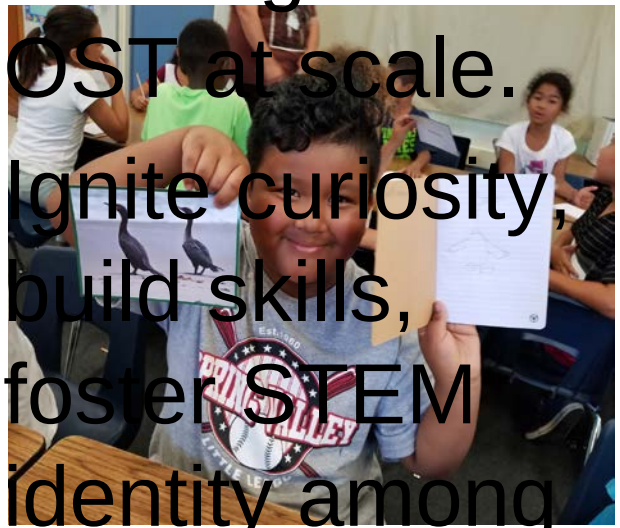
SCIENCE ACTION CLUB

Science Action Club

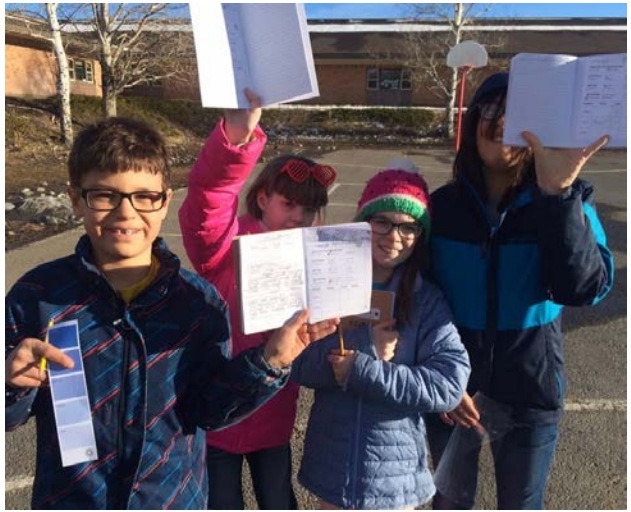
Laura Herszenhorn

Big Idea

Transform environmental science learning in OST at scale. Ignite curiosity, build skills, foster STEM identity among



Staff



SCIENCE ACTION CLUB
CLOUD QUEST

SCIENCE ACTION CLUB
BUG SAFARI

SCIENCE ACTION CLUB
BIRD SCOUTS

The GLOBE Program

NASA

iNaturalist

CALIFORNIA ACADEMY OF SCIENCES

The Cornell Lab of Ornithology
eBird

Challenges

- Readiness factors
- Implementation timelines

Successes

- Communication
- 42,000 youth and adults have participated since 2011
- 1,730 clubs in 22

Impacts and Outcomes

Increased youth interest, engagement, value of STEM

	Pre-SAC	Post-SAC
Science is fun.	78%	**84%**
I'm interested in the natural world.	73%	**83%**
I feel like a scientist.	54%	**72%**
Being in SAC makes me want to learn more about science		**81%**
Since joining SAC I am more confident in my science skills.		**75%**

Impacts and Outcomes

Activity leaders feel confident, prepared, inspired

I was prepared to...	Pre-SAC	Post-SAC
Lead SAC with youth.	58%	**94%**
Help youth connect with the natural world.	62%	**94%**
Help youth build their STEM identities.	61%	**93%**
This training increased my interest in teaching science.		**94%**
I learned useful skills and strategies.		**96%**

CALIFORNIA ACADEMY OF SCIENCES

Thank you!

Laura Herszenhorn
California Academy of Sciences

www.calacademy.org/sac
lherszenhorn@calacademy.org

Sarah Carter

Manager, STEM Media & Education

Twin Cities Public Television

SciGirls Overview

- The Big Idea:
  - Media and education that change how girls see STEM and how the world sees girls.
- Our Approach
  - On TV, Online, On the Ground
- History
  - Began as an outreach program of DragonflyTV

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SciGirls

Produced By: tpt TWIN CITIES PBS

Made Possible By: NSF

Additional Support From: Northrop Grumman Foundation, infor, PPG Industries Foundation, The Mosaic Company Foundation

SciGirls CONNECT Goals

- To foster a greater interest in science and engineering among girls ages 8-13, making a dedicated effort to reach girls of color;
- To provide informal STEM educators with training, video resources and complementary print materials modeling authentic explorations that all girls can do; and
- To increase both the quantity and quality of girls' STEM encouragement programs nationwide, through partnerships with diverse girl-serving organizations.

SciGirls CONNECT

- **Content**: *SciGirls* Seven Strategies, hands-on STEM activities, *SciGirls* media
- **Target Audience:** informal STEM organizations and their educators
- **Participants**: science centers/museums, libraries, CBOs, Girl Scout councils, Girls, Inc., universities, and other non-profit STEM organizations

SciGirls CONNECT Model

- Girl-serving organizations nationwide apply to become a *SciGirls* Partner Organization.
- *SciGirls* staff, or a Certified *SciGirls* Trainer provide the new Partner a face-to-face training in gender equitable teaching strategies at their program site.
- Trained staff and educators develop *SciGirls* programs. Programs have access to SciGirls resources (research, videos, activity guides, webinars, and ongoing program support).
- Trained educators then apply to the *SciGirls* Train-the-Trainer program to become certified to empower other educators with gender equitable strategies.

Challenges and Successes

- **Successes:**
  - Train the trainer model increased the reach (200 -> 3,000+)
  - Trainers were extremely dedicated, believed in the mission
  - Large number of trainers allowed for more trainings
  - Partnerships with organizations like NGCP have helped extend reach

- **Challenges:**
  - Lack of control of individual *SciGirls* programs
  - Difficult to track widespread use of strategies and materials
  - Wanted to target small or high needs programs but they lacked infrastructure

A National Network for Informal Science and Literacy

Julia Skolnik, MSEd

The Franklin Institute

What is Leap into Science?

Leap into science
Engineered by
THE FRANKLIN INSTITUTE

Goals for Children and Caregivers

Leap into science
Engineered by THE FRANKLIN INSTITUTE

Have fun learning together

Think scientifically

Build positive attitudes towards science

- Not content mastery
- Caregivers are both learners and facilitators

How did we get here?

Leap into science
Engineered by THE FRANKLIN INSTITUTE

2007-2011: Philadelphia

Developed and piloted science and literacy resources with The Free Library of Philadelphia and early literacy partners

2011-2017: Pilot Cities

Added new resources, and piloted with museum, library, and OST partners in 12 cities

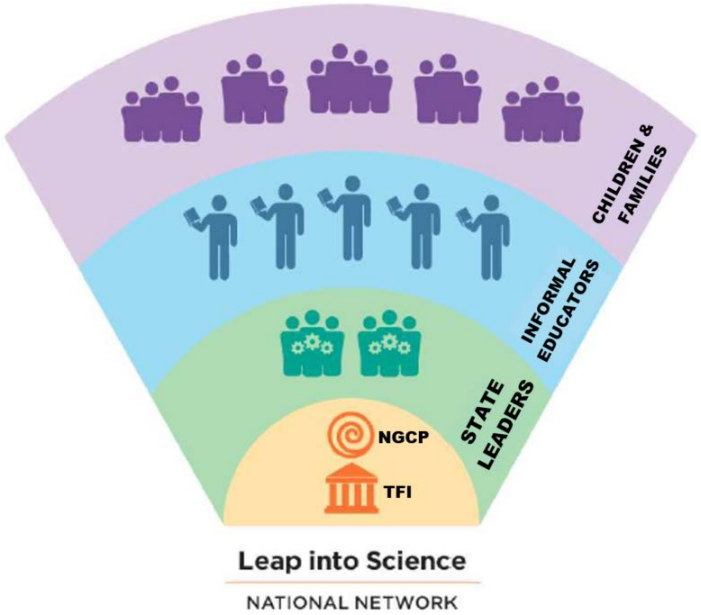
Free Library of Philadelphia

The Franklin Institute

NSF

Institute of Museum and Library Services

Scaling Nationally through State Systems



- Empower **state leader teams** of museums, libraries, and out-of-school time organizations
- Train educators who serve **rural and urban communities**
- Aim to reach over 500,000 people across **15 states** by 2021

Goals for State Leaders and Educators

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Knowledge
Skills
Confidence
Collaboration

For State Leaders:

To effectively **train and support educators** to lead science and literacy programs

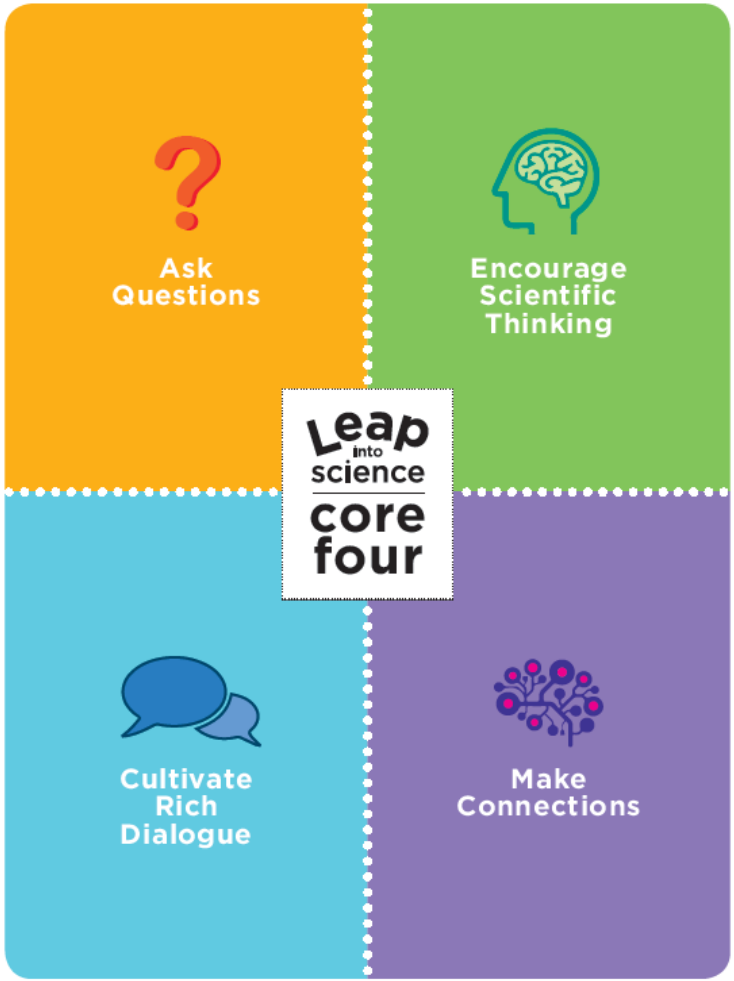
For Educators:

To lead engaging science and literacy **programs for children and families**

Core Four Strategies

For Building Science and Literacy Skills

Watch the video at leap.fi.edu



Fidelity & Flexibility

Leap into science
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Maintaining essential elements across network (**activities, core four, inclusivity**)

Adapting components that reflect their audience (**materials, timing, workshops, books**)

Effective network at all levels and over time

EDC Learning transforms lives.

Successes and Challenges

Leap into science
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Successes

- High interest in STEM for young children
- Committed partners
- Small stipend drew sustainable partners

Challenges

- Flexibility of books
- Content needs in afterschool
- Tracking programs

Building a National Network

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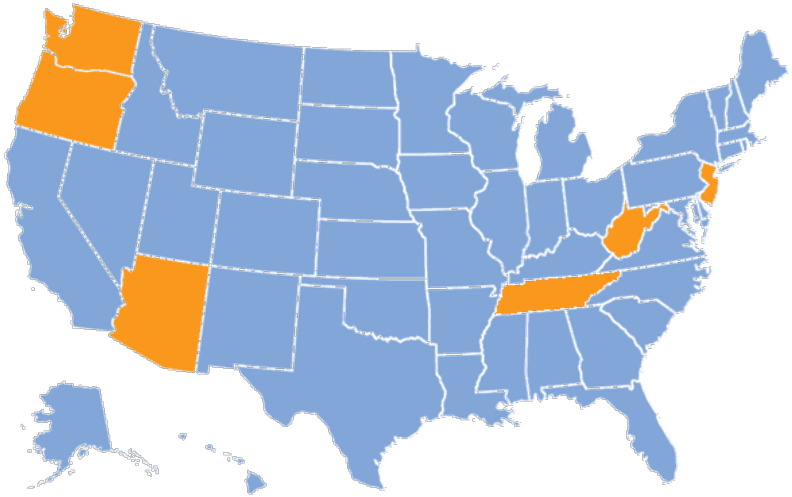

ARIZONA **TENNESSEE**
NEW JERSEY **WASHINGTON**
OREGON **WEST VIRGINIA**

2017-2018

- 25 states applied
- Six states were selected
- Led 15 trainings for 200 educators
- Led 7 workshops for 150 children and families

2019-2021

- Two new cohorts (9 states total)
- Annual National Leap into Science Week (last week of Feb)

THE FRANKLIN INSTITUTE

Leap into science

Engineered by THE FRANKLIN INSTITUTE

Learn more at leap.fi.edu

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ATSC 2018: Leveraging Statewide Partnerships for Scalable Outreach

The Franklin Institute - http://www.fi.edu
Leap into Science - http://leap.fi.edu
Leap into Science is a national program that integrates open-ended science activities with children's books, designed for children ages 3-10 and their families. We empower educators to offer programs in community settings like libraries, museums, and out-of-school time programs to engage underserved audiences in accessible and familiar settings. In partnership with NGCP and the Institute for Learning Innovation, and with support from NSF, Leap into Science is scaling across 15 states by 2021. We are assembling state leadership teams of representatives from museums, libraries, and out-of-school time organizations to train informal educators who serve urban or rural communities across their states.

Contact Julia Skolnik, Assistant Director of Professional Development, jskolnik@fi.edu

California Academy of Sciences – https://calacademy.org
Science Action Club - https://www.calacademy.org/science-action-club-sac
Science Action Club makes it easy and fun to lead hands-on STEM in out-of-school time—no experience necessary! Through games, projects, and exciting investigations, Science Action Club inspires youth to explore nature, contribute to authentic citizen science research, and design strategies to protect the planet. From rural Alaska to midtown Manhattan, over 42,000 youth and educators in more than 200 cities and towns have participated in Science Action Club since 2011.

Contact Laura Herszenhorn, Director of Expanded Learning and Youth Engagement, lherszenhorn@calacademy.org

Twin Cities Public Television - https://www.tpt.org
SciGirls - http://www.scigirlsconnect.org.
SciGirls (pbskids.org/scigirls) is an Emmy award-winning PBS Kids television show, website, and educational outreach program that draws on cutting-edge research about what engages girls in science, technology, engineering and math (STEM) learning and careers. The transmedia effort has reached over 14 million girls, educators, and families, making it the most widely accessed girls' STEM program available nationally. SciGirls' videos, interactive website, and hands-on activities work together to address a singular but powerful goal: to inspire, enable, and maximize STEM learning and participation for all girls, with an eye toward future STEM careers. The goal of SciGirls is to change how millions of girls think about STEM.

Contact Sarah Carter, Manager, STEM Media and Education, scarter@tpt.org

National Girls Collaborative Project – https://ngcproject.org
The NGCP brings together organizations throughout the United States that are committed to informing and encouraging girls to pursue careers in science, technology, engineering, and mathematics (STEM).

Contact Casi Herrera, Educational Programs Manager, cherrera@ngcproject.org