

Closing the Gender Gap: Developing Gender Equitable STEAM Programs

Tuesday, September 1st

The webinar will begin at 1 pm MT and will be recorded

While you're waiting:

- 1) Find the toolbar – it will either be on the bottom or top of your Zoom window
- 2) Introduce yourself in the chat box (**please select “All Panelists and Attendees” not “All Panelists”**)
- 3) Click audio “Join by Computer” – you won’t have microphone access

Tip for viewing: You can resize and move the location of the video and slide screens by clicking and dragging them

Expectations / Guidelines

- Try to use the Q&A feature for questions
- When using Chat, make sure your messages are being sent to “All Panelists and Attendees”
- We are all working from home: tech problems may happen!
- Call in #'s:
 - +1 646 876 9923 ; +1 669 900 6833 ; +1 253 215 8782 ; +1 301 715 8592 ; +1 312 626 6799 ; +1 346 248 7799 ; +1 408 638 0968
 - Webinar ID: 928 879 002

Facilitator Introductions

Claire Ratcliffe (Space Science Institute)

Keliann LaConte (Space Science Institute)

Niki Becker (SciGirls)

Kristin Pederson (SciGirls)

Today's Agenda

Ice Breaker/Poll Question

STEAM Equity Project Overview

SciGirls Strategies: How to Engage Girls in STEAM

SciGirls Activity: Parachute Parade

Group Reflection and Discussion

Q&A

Icebreaker

What is something you
are looking forward to
about autumn?



Poll Question

Have you ever gone skydiving?

- A. Yes, and I loved it!
- B. Yes, and it was terrifying and I will never go again
- C. No, but I want to!
- D. No, never in a million years



Science-Technology Activities &
Resources For Libraries

STEAM Equity Project

NCIL

National Center for
Interactive Learning



SPACE
SCIENCE
INSTITUTE

ALA American
Library
Association



Institute for
Learning Innovation

SciGirls



Education
Development
Center



Empower tweens and their families around equitable STEAM learning and career paths



Collaborate and co-create with Latino* populations


*The project team uses the term “Latino” but acknowledges that communities and individuals may identify as Latino/a/x, Hispanic, Chicano/a, or a variety of other terms.

Advancing Informal STEM Learning

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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 Science Foundation.



Culturally Responsive STEAM Programming: Engaging Latinx Communities in Rural Areas

Tuesday, September 15th at 2:30 pm MT

Register at www.starnetlibraries.org/resources/webinars



ALA ANNUAL

CONFERENCE & EXHIBITION

CHICAGO

JUNE 24–29, 2021

ALA American Library Association



**STEAM Equity
Preconference Workshop**

Join an annual forum
on gender equitable
and culturally
responsive STEAM
learning for:

Networking

Strategies

Resources

**Hands-on STEAM
activities**



“Community Dialogues and Libraries,” with Lisa Jackson, Librarian, Supervisor and community members at [African American Research Library and Cultural Center](#) (AARLC)

<https://stemforall2020.videohall.com/presentations/1653>



Community Dialogues



SciGirls Strategies: How to Engage Girls in STEM

Niki Becker, STEM Media and Education Specialist
Kristin Pederson, Senior Director, STEM Media and Education
Project Development

Produced by:



Made Possible by:



Additional Support from:



PPG
Industries
Foundation

The
Mosaic
Company
Foundation

The Big Idea



Media and education
that changes how girls
see STEM and how the
world sees girls.

Our Approach

- On TV
 - national PBS Kids series
- Online
 - safe, social networking website
- On the Ground
 - activities and professional development



Rationale

Why are we here?

- Boys and girls do not display a significant difference in their **abilities** in STEM. The cause is social and environmental.
- Differences consistently appear in girls' **interest** and **confidence** in STEM subjects, starting at a very young age.
- These differences can be linked to a **negative self-perception**, enhanced by stereotypes.



The SciGirls Strategies: How to Engage Girls in STEM



SciGirls Strategies: How to Engage Girls in STEM

The *SciGirls* approach is rooted in research about how to engage girls in STEM. A quarter of a century of studies have converged on a set of strategies that work, and they have become the framework for *SciGirls*.

- 1 **Connect STEM experiences to girls' lives.**
- 2 **Support girls using STEM practices.**
- 3 **Empower girls to embrace struggles.**
- 4 **Encourage girls to challenge STEM stereotypes.**
- 5 **Emphasize that STEM is collaborative and community-oriented.**
- 6 **Interact with diverse STEM role models & mentors.**

Framework for the SciGirls Strategies

In order to be effective at implementing the ***SciGirls Strategies***, educators need to:

Provide an inclusive learning environment.

TIPS:

- ★ Create a warm and welcoming space that is accessible to all.
- ★ Create an atmosphere of mutual respect.
- ★ Use icebreakers so youth can introduce themselves in a non-threatening manner.
- ★ Provide opportunities for youth to voice their opinions.

Use culturally responsive teaching practices.

TIPS:

- ★ Understand your culture and how it affects others.
- ★ Get to know your youth and build on their life experiences.
- ★ Communicate high expectations for behavior and performance.
- ★ Validate youth's bilingual abilities to leverage learning.

www.scigirlsconnect.org



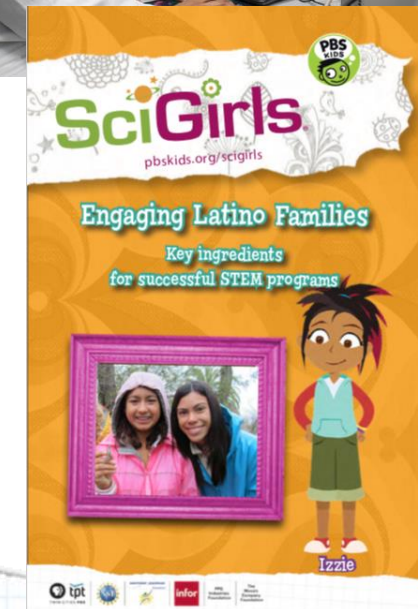
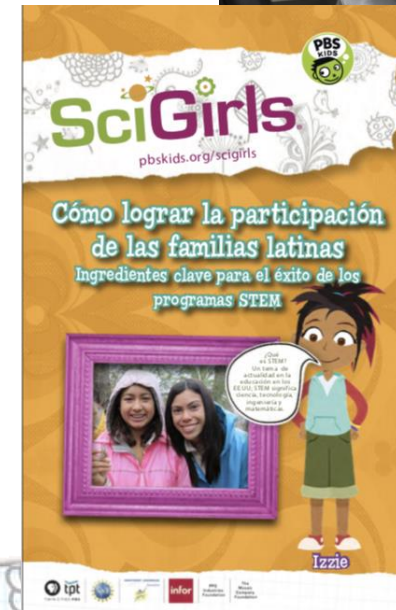
SciGirls and Latinx Audiences

- *Latina SciGirls: Promoting Middle School-Age Hispanic Girls' Positive STEM Identity Development*
 - 6 episode Spanish-first series
 - Two year research and evaluation outreach program
 - 16 partner organizations running STEM programs for Latinas grades 5-8
 - 280+ girls, 560+ Latinx family members reached
 - Findings: girls reported higher rates of emotional connection to STEM (an important component of STEM-related identity development) after exposure to the various Latina SciGirls interventions



SciGirls and Latinx Audiences

- *Latinas At Work* Role Model Series
 - Twelve 3-5 minutes videos showcasing Latinas in STEM Careers
- *Engaging Latino Families Guide*





ALMA STEPHANIE
[INGENIERA EN MATERIALES]

I'm Alma Stephanie Tapia, and I'm a materials engineer at NASA.

Virtual Programs

- Utilize platform features
- Get their attention: ask questions, good visuals, add surprises
- Use a variety of learning techniques: act out, draw, chat verbally or with the chat box
- HAVE FUN! Play games.



Parachute Parade

Your Group Needs:

- Materials To Build Your Parachute
 - At least 3 from this list: plastic wrap, tissues, paper towels, plastic bags, tissue paper, coffee filters, handkerchiefs
 - String or thread
 - Scissors
 - Tape and/or paper clips
 - Paper & pencil
 - 1 toy mini figurine
- Stopwatch To Time Your Descent



Parachute Parade Debrief

What about this activity showcased the SciGirls Strategies?



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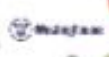
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www.scigirlsconnect.org

Produced By: Made Possible By: Additional Funding Provided By:



Thank you!

Niki Becker: nbecker@tpt.org



TWIN
CITIES
PBS

Discussion

In what ways has your library intentionally created STEAM learning experiences for girls?

Discussion

How do you connect with your tween and girl patrons to learn about their interests?

Thank you!

Any Questions?
