SciGirls Strategies: How to Engage Girls in STEM
Agenda

● SciGirls Overview
● Rationale - What the data shows
● Framing the *SciGirls Strategies*
● The *SciGirls Strategies*
● Additional Resources
● Questions
The Big Idea

Media and education that change how girls see STEM and how the world sees girls.
Our Approach

• On TV
  – national PBS Kids series

• Online
  – PBS Kids website with games and videos

• On the Ground
  – activities and professional development
On TV
Online
The national SciGirls CONNECT network of girl-serving partner organizations uses our bilingual resources to engage diverse girls in STEM, and connect girls and families with STEM professional role models.
Rationale
What the data shows

Let’s look at the data for girls and women in STEM.
Rationale

GPAs in Math and Science

Rationale

Rationale

Employed women scientists and engineers, as a percentage of selected occupations, 2015

• Boys and girls do not display a significant difference in their abilities in STEM. The cause of the gender gap 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
Fostering girls’ STEM identity

The strategies are designed to instill confidence and persistence, and motivate girls to develop a **STEM identity**

**STEM identity:** refers to a person’s sense of who they are, want to be, and what they believe they are capable of in relation to STEM.
Research: Conducted extensive review of the literature focused on engaging girls in STEM, previous SciGirls Strategies, STEM identity, and culturally responsive teaching practices

Practice: Informed by SciGirls educators’ experiences and feedback via previous SciGirls project evaluations and pilot testing of updated Strategies
Framing the SciGirls Strategies

- *STEM for ALL* Learning Environment
- Culturally Responsive Teaching Strategies
STEM for All Learning Environment

- Inclusive learning environment that looks and feels inviting and allows girls to feel they belong
- Comfortable, personally meaningful, collegial, supportive and culturally responsive
Culturally Responsive Teaching

*Lifelong* process of using *cultural knowledge, prior experiences, and performance styles* of diverse students to make learning more appropriate and effective for students. (Gay, 2013)
Framing the SciGirls Strategies

STEM for all learning environment and culturally responsive teaching practices frame all of the SciGirls Strategies.
1. Connect STEM experiences to girls’ lives.
2. Support girls as they investigate questions and solve problems using STEM practices.
3. Empower girls to embrace struggle, overcome challenges, and increase self-confidence in STEM.
4. Encourage girls to identify and challenge STEM stereotypes.
5. Emphasize that STEM is collaborative, social, and community-oriented.
SciGirls Strategies

6. Provide opportunities for girls to interact with and learn from diverse STEM role models.
FabFems is an international, online, searchable directory of women STEM professionals interested in outreach to girls

Audience:
• Role Models
• Girl-Serving Programs
• Parents and Girls

www.fabfems.org
Educator resources on scigirlsconnect.org

Download videos, activities, and other resources to enhance your program!
Bilingual resources for educators and families

- Engaging Latino families guide
- Family guide for engaging girls in STEM
Looking for more?

Questions?

SciGirls Activities, Videos, and more: scigirlsconnect.org

scigirlstv @SciGirls

This material is based upon work supported by the National Science Foundation under Grant No. HRD-1103016. 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.