Welcome to the NGCP National Webinar

Celebrate Computer Science Education Week with CodeSciGirls!

December 11, 2019
Webinar Agenda

• NGCP Vision and Goals
• SciGirls Season 5: Code SciGirls!
• Q&A
• Closing
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).
NGCP Goals

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

2. **Strengthen the capacity** of programs by sharing exemplary practice research and program models.

3. **Use the leverage of a network** to achieve gender equity in STEM.
National Network of Collaborative Teams
Katie Hessen
Science Producer and STEM Content Specialist
Season 5: Code SciGirls!

Katie Hessen khessen@tpt.org
STEM Content Specialist & Science Producer, Twin Cities PBS
SciGirls: The Big Idea

Media and education that change how girls see STEM and how the world sees girls.
SciGirls is.....

On-air
★ A national PBS Kids series (with over 46 million viewer impressions to date) with 39 full-length episodes and 28 role model profiles
★ Two specials: *Real Women, Real Jobs* and *Latinas at Work!*

Online
★ A PBS Kids website with videos and games (300,000 visitors/month)
★ On the PBS Kids Video App (with over 60 million views online!)

On-the-ground
★ SciGirls gender equitable professional development and STEM activities
★ SciGirls network of 200 SciGirls partners in 35 states
★ 1200 programs reaching 82,000+ youth!
The SciGirls approach is rooted in research about how to engage girls in STEM. 25 years of research have converged on a set of common strategies that work, and they have become the framework for SciGirls.

http://www.scigirlsconnect.org
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

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.**
Season 5 overview

Power up for some sensational STEM: SciGirls Season Five is all about COMPUTER SCIENCE!

• A new online game
• 5 new episodes
• 5 New (and reimagined) Activities
• 3 New Role Model Videos (Spring 2020)

Made possible by:

Craig Newmark Philanthropies
New Game!

In this online adventure, youth take Subbie the submarine through underwater challenges, learning to code to help find various items on the ocean floor.

- Available December 12
- pbskids.org/scigirls/games
Search more green kelp for hidden animals.

Search all the kelp in one code sequence to complete the mission.

Move code blocks here, then hit the play button to run them.
New Episodes and Activities

5 new Episodes featuring computational thinking
- Watch online starting Dec 12!
  - PBS kids
  - Youtube
  - SciGirlsConnect.org

- Check your local listings for air dates
Season 5 Premiere Dec 12!
New Episode: HIGH TECH TIDE

Florida SciGirls Laila, Claire, and Byrne unite with marine biologists at Mote Marine Lab to digitally track spotted eagle rays in the Gulf of Mexico, and share their data in a livestream presentation.
New Activity: Signal Senders

Youth create audio signatures that will identify them to their classmates.

To study marine wildlife, researchers attach acoustic tags to the animals. These tags emit a unique sound (or ‘ping’) that can be recorded by receivers placed where the animals travel.
New Episode: GAME CHANGERS

Game on for Jolie, A’mya, Nasya, and Aja! Teaming up with game designers, they create a hands-on board game adventure and code an app, then share the fun at a professional game design showcase.
Re-Imagined Activity: Awesome Game Race

Youth work in groups to create a game.

Youth play/share a variety of their favorite games and discuss the parts that make a game. With a focus on game mechanics and creating rules, youth work together to create a game.
SciGirls in Los Angeles reach for the stars! Inspired by high-tech NASA sensor technology, Rihighna, Trinity, and Karen design and code wildlife cameras to capture images of the animals in their neighborhood.
Re-imagined Activity: Keep Out!

Build an alarming doormat to keep people out of your room!

Youth work in groups to create a simple circuit using a battery, a buzzer and conductive materials. Youth will come up with a design to create a switch in their circuit that acts as a sensor that triggers the alarm!
Fueled by their passion for technology and social justice, Kanah, Margaret, and Eh Lay create a computer animation that urges kids to take action in their own communities.
New Activity: Story Starters

Youth work in small groups to create Storyboards to plan a story for a PSA they would like to create.
Britanee, Estrella, and Saabiriinn collaborate with singers on a concert for Deaf and hearing audiences. They code software that “paints with music,” creating a stunning visual display of a live vocal performance.
New Activity: Code Creators

In this activity, youth work together to write pseudocode!

**Pseudocode:** using everyday language to write out what you want to happen in your code.

Youth work in groups to write pseudocode to recreate a simple movement. Then groups trade code and have to guess what the action is.
New Curriculum coming late 2020

Draft Curriculum being implemented at 12 sites nationwide now!
Available to the public in late 2020 or early 2021!
• 32 hours of scaffolded curriculum
• Micro:bit (mini computer)
• Makecode Programming Language
SciGirls has over 30 existing role model profile videos featuring women in STEM professions discussing their life and career pathway.

- 3-6 minutes in length
- Download or stream on SciGirlsConnect.org

AUBREY JANE SCOTT
Game Developer / Gameplay Engineer

AMY ALEXANDER
Biomedical Engineer

ANTOINETTE SMITH
Software Engineer
SciGirls Season Six

Funded by NASA, Season Six will include six episodes filmed at various NASA Centers and role model videos of girls who flew their experiments to space!

Outreach programs includes partners across the nation including Challenger Learning Centers, museums, PBS stations, Girls Scouts and Girls Inc. groups!

Special projects will include:
★ Programming robots on the ISS
★ Participating in downlinks with astronauts, and
★ Creating space-themed art projects!

*Available Late 2020!
Educator resources on scigirlsconnect.org

Download videos, activities, and other resources to enhance your program!
Looking for more?

Katie Hessen, khessen@tpt.org

SciGirls Activities, Videos, and more: scigirlsconnect.org

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Amazon Studios Partnership

- Nationwide Screening Program (Week of Jan 13, 2020)
  - Webinar (Early January, Date TBD)
- Rose Bowl Parade
  - Float Building Workshops (Dec 21, 2019)
  - Students and Mentors March in Parade (Jan 1, 2020)
Thank you for joining!