

Project Goal

The goal of this three-year project is to leverage NSF's investment in both *SciGirls* and computer science education by engaging 8-13 year-old girls in computational thinking and coding through innovative transmedia programming which inspires and prepares them for future computer science studies and careers.

CODE: SciGirls!

How Can Media + Outreach Increase Girls' Interest and Engagement with Computer Science?



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Episodes

Featuring episodes with a focus on technology and computer science, girls team up with a variety of female technology professionals to explore:

- Programming
- Game design
- Sensors
- Big data
- Animation



Game

Featuring *SciGirls'* animated youth characters, Izzie and Jake, A new PBS Kids game will focus on computational thinking, coding and STEM. Children will play alongside Izzie and Jake to control a robot at their local aquarium and help open a new reef exhibit by collecting data from the ocean about water quality and marine life. Tasks teach the game player the importance of conserving marine life and protecting the water sources from pollution.

Outreach

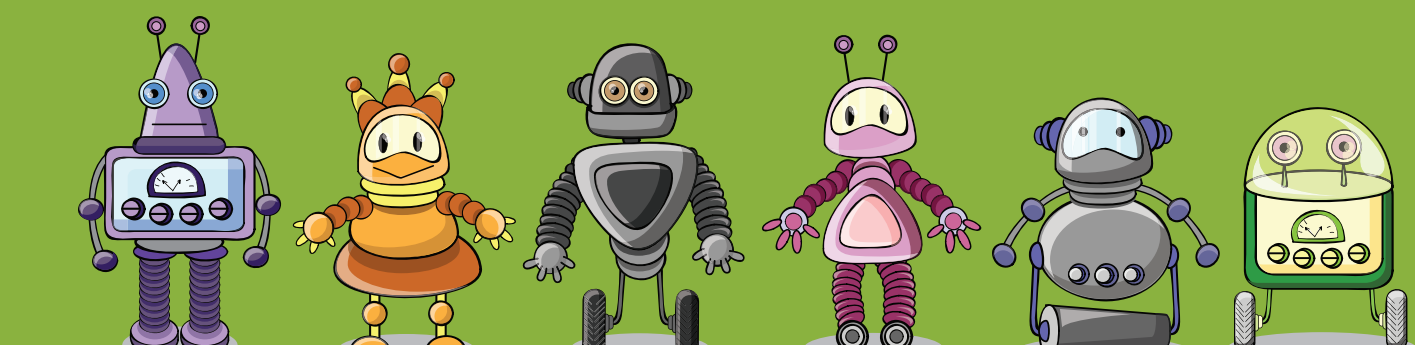
Computer science programs at 12 *SciGirls* partner sites will include:

- New hands-on computer science activities aligned to episodes
- Family events where girls will share their work, and
- Female technology professionals to engage with girls as role models



Partners

- Girls Scouts of Montana and Wyoming
- Girls Inc. of Western Connecticut
- Girls Inc. of the Tennessee Valley
- Challenger Learning Center at Heartland Community College
- Museum of Innovation and Science
- National High Magnetic Field Laboratory
- PBS SoCal
- Phillip and Patricia Frost Museum of Science
- Texas Girls Collaborative Project
- University of Colorado - Boulder
- University of Maine Cooperative Extension
- University of Minnesota



TV/Online Viewing

PBS Kids Media

Knowledge-Building Studies

Drawing on narrative transportation theory and character identification theory, two studies will investigate the question: *To what extent and how do the narrative formats of affect girls' interest, beliefs, and behavioral intent towards coding and code-related careers?*

Pre-Survey:

- Demographic background
- Experience with computers & coding activity
- Interest in coding and code-related careers
- Belief that coding is important and relevant
- Belief in own ability to code
- Acquaintance with someone who codes

Episode Study:
View narrative coding episodes

Game Study:
Play multiple endings of narrative-based coding game

Rate transportation and character identification after each episode and game play

Post-Survey:

- Interest in coding & code-related careers
- Interest in participating in future coding activity
- Intention to seek out coding experiences
- Belief that coding is important and relevant
- Belief in ability to code
- Belief that a code-related career is possible for them

Summative Evaluation

Does participating in *SciGirls'* outreach increase educators' experience and confidence in how to engage girls and their family members in coding activities and in integrating role models into the girls' sessions, and if so how?

What is the impact of *SciGirls'* outreach on girls' interest, beliefs, and behavioral intent toward coding and code-related careers, knowledge of coding careers, and understanding of computing concepts, practices, and perspectives?

Does exposure to and involvement in *SciGirls'* impact parents'/guardians' awareness of coding-related opportunities and careers and their intention to encourage their daughters to further explore or pursue them?

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