Welcome
NISE Network Partners!

While we wait for everyone to join, please type a response to the following question in the text box to get the conversation going.

Has your museum offered programs or activities specifically designed to reach girls?

NISE network
NANOSCALE INFORMAL SCIENCE EDUCATION

NSF

Tips and Tricks for Engaging Girls in Museum Programing

Presenters:

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Exhibit & Program Developer
Oregon Museum of Science & Industry

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Oregon Museum of Science & Industry

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SpectrUM Discovery Area

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Durango Discovery Museum

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Durango Discovery Museum

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www.nisenet.org

Today's Conversation

Tips and Tricks for Engaging Girls in Museum Programing

Join NISE Net partners for a conversation on how to better engage girls in museum programing! Presenters will share lessons learned, resources from PBS programing SciGirls and NSF funded Girls RISE (Raising Interest in Science and Engineering) Museum Network, and some specific tips and tricks to better engage girls in upcoming NanoDays 2015 activities.

Reaching Diverse Audiences

Inclusive Audiences
Raising our capacity to effectively engage underserved and underrepresented audiences

Why use an Inclusive Audiences approach?

- Museums are uniquely situated to educate the public, inspire youth, and provide access to learning experiences.
- Inclusive approaches help reach all audiences more effectively.
- It allows us to go beyond education and inspiration to empowerment and social justice.

Our Work is a Journey…

girls RISEnet

A national partnership to help informal science educators engage and motivate minority girls in grades 6-12 to explore science and engineering careers.

Question for Attendees

Is anyone already a Girls RISEnet partner?

Has anyone used Girls RISEnet resources?

Regional Meetings

NISE Net/Girls RISEnet Regional Meeting

- OMSI in Portland, OR

Girls RISEnet Regional Meetings

- OMSI in Portland, OR
- Museum of The North, Fairbanks, AK
- Tahoe Environmental Research Center, Lake Tahoe, NV

A Guide for Engaging Girls in NanoDays 2015

NISE Net is creating a quick and easy tool for Nanodays 2015 kits for helping facilitators to engage with girls.

NanoDays
The Biggest Event for the Smallest Science!

Tips for Engaging Visitors

Greet visitors
Say "hello," make eye contact, and smile. Simply looking like you're available and friendly will bring visitors to your station.

Let visitors do the activity
As much as possible, let visitors do the hands-on parts of the activity, and let them discover what happens. (If your activity has a surprise, don't give it away!)

Share what you know
Use clear, simple language. Focus on one main idea—don't feel that you need to tell visitors everything at once! Keep the information basic for starters, and be willing to expand on an idea for interested learners.

Use examples from everyday life
Familiar examples can help explain abstract concepts. Be aware of visitors' abilities, keeping in mind that children do not have the same skills or vocabulary as adults.

Ask questions
Help visitors observe and think about the activity. Try to use questions that have more than one answer, such as:

- What do you see happening?
- Why do you think that happened?
- What surprised you about what you saw?
- Does this remind you of anything you've seen before?

Be a good listener
Be interested in what visitors tell you, and let their curiosity and responses drive your conversation forward.

Offer positive and encouraging responses
If visitors haven't quite grasped a concept, you might say, "That's a good guess," or "Very close, does anyone else have something to add?" Don't say, "No" or "Wrong" in response to visitors' observations or explanations.

Share accurate information
If you aren't sure about something, it's OK to say, "I don't know. That's a great question!" Suggest that visitors go to whatisnano.org to learn more about nanoscale science, engineering, and technology.

Remain positive throughout the interaction
Remember that nonverbal communication is important, too. Try to maintain an inviting face and body language.

Thank visitors
As your interaction ends, suggest that visitors explore other NanoDays activities.

HAVE FUN! ☺ A positive experience will lead to learning.

Tips for Engaging Girls

Tip 1: Feature female role models

Tip 2: Make it social

Tip 3: Engage the senses

Tip 4: Tell a story

Tips for Engaging Girls

Tip 5: Highlight altruism

Tip 6: Make it Personal

Tip 7: Use inclusive language

Tip 8: Encourage creativity

Tip 9: Make sure there are many “right” answers

Questions from the Audience

Please either type a question in the chat box or “raise your hand” to ask a question.

SciGirls

Ways to Engage Girls in Museum Programming

Jessie Herbert
Public Education Specialist
spectrUM Discovery Area

UNIVERSITY OF MONTANA
spectrUM

The Big Idea

To change how millions of girls (ages 8-13) think about STEM

SciGirls

Our Approach

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

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SciGirls

Online

Girls everywhere can join the SciGirls revolution online at:
pbskidsgo.org/scigirls

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SciGirls

Online

Scigirlsconnect.org is a great website for educators!

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SciGirls

On the Ground

scigirlsconnect.org

SciGirls

Quick Question

Can you share with the group a strategy that you have used that worked well with engaging girls?

1. **Girls benefit from collaboration, especially when they can participate and communicate fairly.** (Parker & Rennie, 2002; Fancsali, 2002)

SciGirls

SciGirls Seven

1. **Girls benefit from collaboration, especially when they can participate and communicate fairly.** (Parker & Rennie, 2002; Fancsali, 2002)

2. **Girls are motivated by projects they find personally relevant and meaningful.** (Eisenhart & Finkel, 1998; Thompson & Windschitl, 2005; Liston, Peterson, & Ragan, 2008)

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3. **Girls enjoy hands-on, open-ended projects and investigations.** (Chatman, Nielsen, Strauss, & Tanner, 2008; Burkam, Lee, & Smerdon,1997; Fanscali, 2002)

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4. **Girls are motivated when they can approach projects in their own way, applying their creativity, unique talents and preferred learning styles.** (Eisenhart & Finkel,1998; Calabrese Barton, Tan, & Rivet, 2008)

5. **Girls' confidence and performance improves in response to specific, positive feedback on things they can control – such as effort, strategies and behaviors.** (Halpern, et al., 2007; Zeldin & Pajares, 2000; Blackwell, Trzesniewski, & Sorich Dweck, 2007; Mueller & Dweck, 1998)

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6. **Girls gain confidence and trust in their own reasoning when encouraged to think critically.** (Chatman, et al., 2008; Eisenhart & Finkel,1998)

SciGirls

SciGirls Seven

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6. **Girls gain confidence and trust in their own reasoning when encouraged to think critically.** (Chatman, et al., 2008; Eisenhart & Finkel,1998)

7. **Girls benefit from relationships with role models and mentors.** (Liston, et al., 2008; Evans, Whigham, & Wang, 1995)

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My Own Strategies

Play Music in the Background!
- It's fun to dance to, gets girls having fun

Share your own stories

Talk about real life problems
- Girls like problem solving, and nano is a great way to talk about how scientists are figuring out solutions to real problems

Games and Icebreakers
- SciGirls BrainSTEM Game
- Nano Board Game
- Nano and Society activities

National Girls Collaborative Project

www.ngcproject.org

SciGirls

Looking for more?

pbskidsgo.org/scigirls

pbs.org/teachers/scigirls

pbs.org/parents/scigirls

scigirlsconnect.org

facebook.com/scigirlstv

twitter.com/SciGirls

ngcproject.org

spectrUM.umt.edu

jessie.herbert@umontana.edu
(406)728-STEM

Powerhouse Science Center

(formerly Durango Discovery Museum)

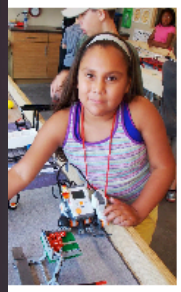
- Initially, we thought PSC was serving equal numbers of girls and boys, but upon closer examination of our stats:
  - Only 39% of program participants were girls
  - Only 4 of our 19 interns were girls
- So….we applied for a Girls RISEnet mini-grant and a Women's Foundation of CO grant

Girl-Centric Marketing techniques

- Wording
- Visuals
- Color choices
- Creativity
- Collaboration
- Service-based
- Role Models
- Girls-only

Girl-Centric Marketing techniques

BUILDING ROBOTS. BUILDING TEAMWORK. BUILDING THE SCIENTISTS AND ENGINEERS OF THE FUTURE.



FIRST LEGO League Robotics is a global program for students ages 9-14 to build, test, and program an autonomous robot to conquer theme-based challenges. Four Corners FLL is now one of five official qualifying competitions for the New Mexico State FLL Tournament!

FLL FIRST® LEGO® League



FOUR CORNERS FIRST LEGO LEAGUE

A new season gears up September 8, 2014.

HELP BUILD THE FUTURE. Team and individual registration is Sept. 2 and 4, from 5-6pm. Attending only one registration meeting is necessary. Contact Sarah at *Sarah@PowSci.org* for more information.

POWERHOUSE SCIENCE CENTER

CREATING ROBOTS. USING TEAMWORK TO SOLVE WORLD ISSUES. BECOMING THE SCIENTISTS AND LEADERS OF THE FUTURE.



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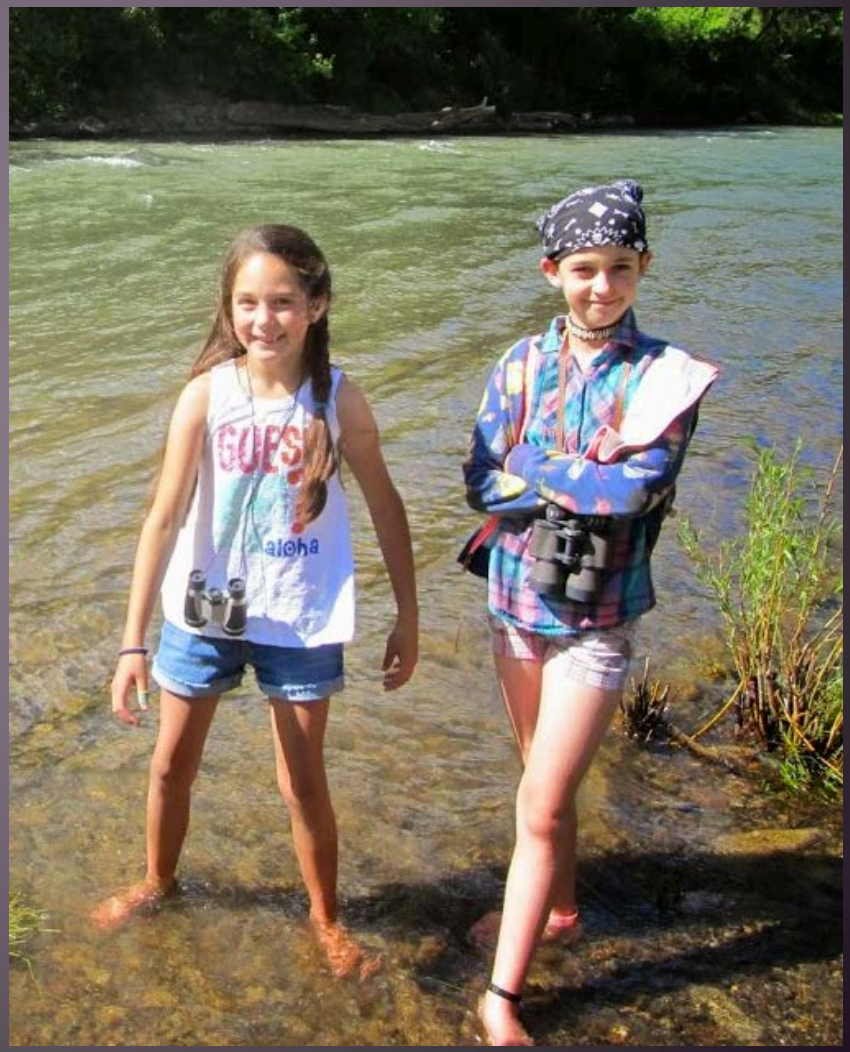
POWERHOUSE SCIENCE CENTER

Girl-Centric Programming:

Girls Geek Boutique and Citizen Science Summer Camps



Girl-Centric Programming: All-Girls LEGO League Team

Girl-Centric Programming: Girls STEM-Power Event

Girl-Centric Programming: Sleepovers at the Museum

Mixed Audiences

What is the secret?

Variety!

Be careful of Assumptions.

Some girls like loud and messy!

Planning

Variety!

- Style points
- Social
- Creative
- Open-ended

Planning

Variety!

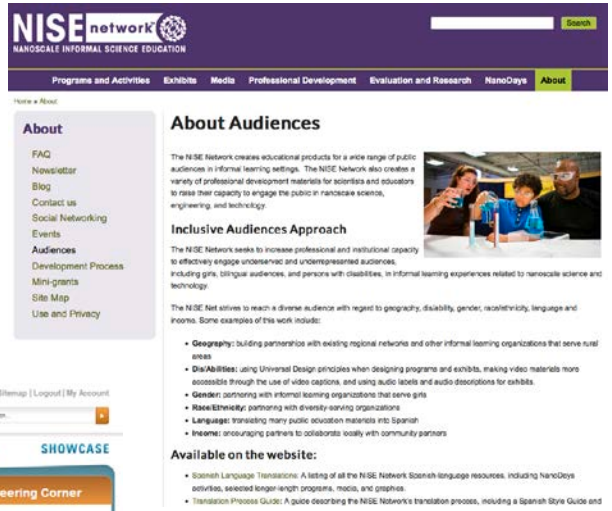
Stories

Examples

Analogies

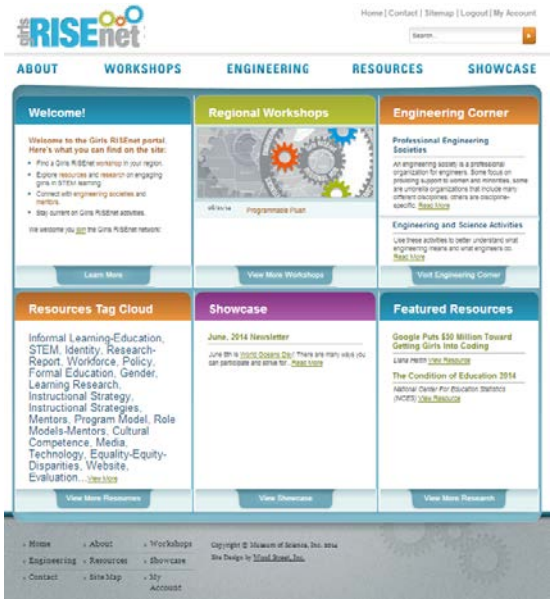
Our Favorite Resources

amightygirl.com

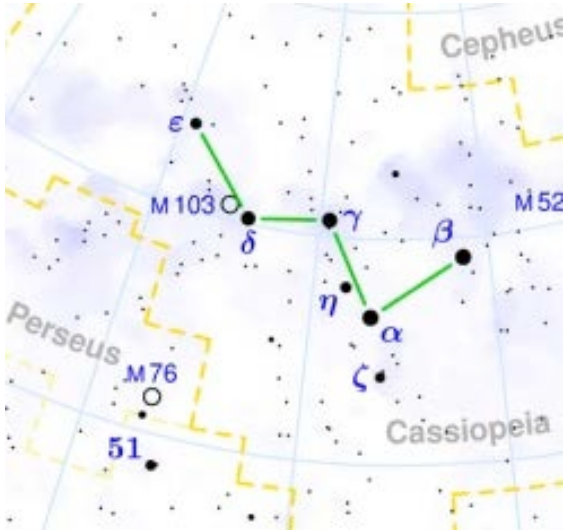


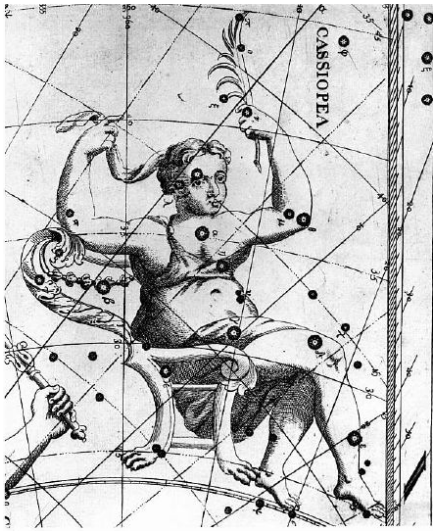
Nisenet.org

pbskids.org/scigirls/

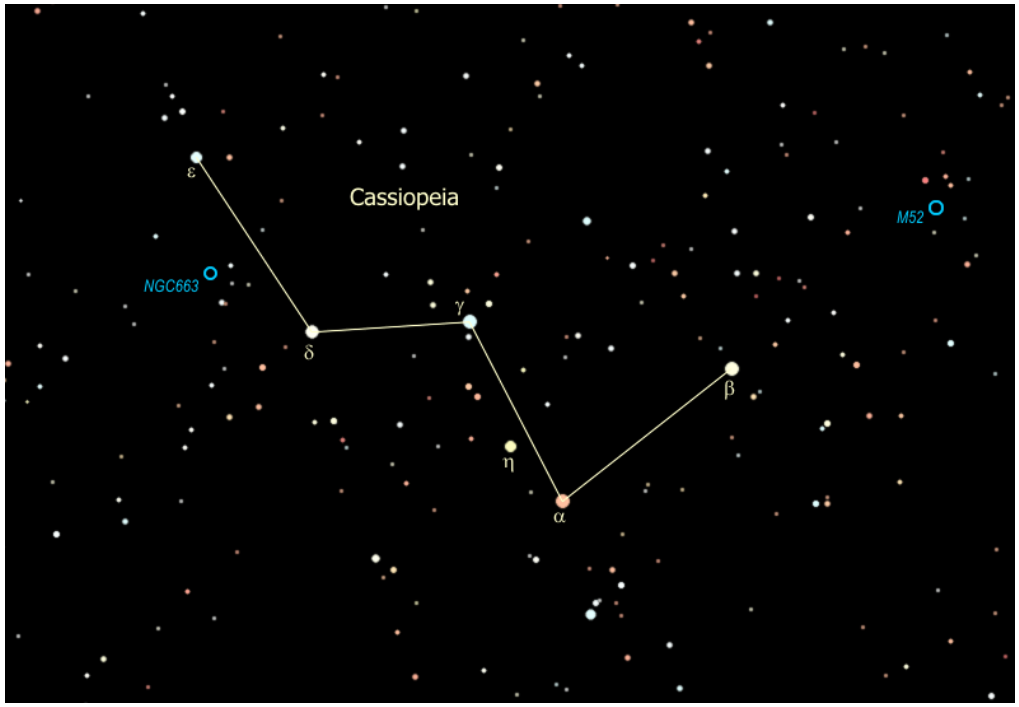


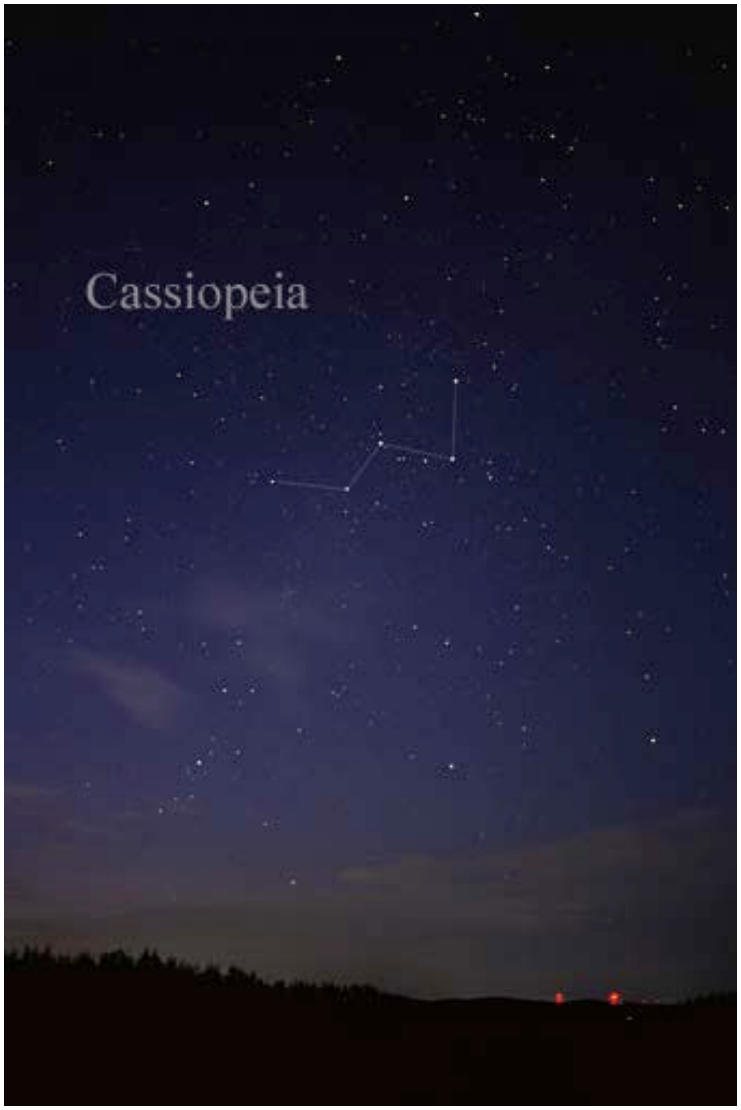
girlsrisenet.org





Which picture would you choose?





Implementation

Variety!

Listening

"What does it remind you of?"
"What does it look like?"
"What do you think?"
"How do you know?"

Watching Interactions

Is everyone engaged?
What interests them?
Be ready with extra supplies!

Speaking

Use inclusive language.
Use affective language.

What does success look like?

Mindful teaching benefits everyone!

Questions from the Audience

Please either type a question in the chat box or “raise your hand” to ask a question through audio for any of the presenters.

THANK YOU!

To all our partners - we could not do this work without you!

This presentation is based on work supported by the National Science Foundation under Grant No. 0940143.