The Return of the Kids: STEM In-Person

An ACT Now STEM Webinar
September 23, 2021
○ Welcome and Introductions
○ Level Setting
  ◦ Who is ACT Now?
  ◦ Why STEM?
  ◦ STEM in Afterschool
○ Panelists’ Presentations
○ Q&A and Talkback
○ Closing and Evaluation
Introductions

Lesley Fisher Chapman
she/her
Program Coordinator, ACT Now
Moderator

Erin Wiese-Reichert
she/her
Early Childhood Educator,
Children's Discovery Museum

Dr. John Loehr
he/him
VP of STEM Education,
Science Olympiad

Holly Kelsven
she/her
Program Manager, Homewood
Science Center
ACT Now

ACT NOW! Afterschool for Children and Teens

Click here to sign up for our newsletter!
Why focus on STEM?

Science, Technology, Engineering, and Math

Life Skills

College & Career Prep

Job Growth

Economic Sustainability
STEM in Afterschool

BACK TO BASICS
Tips and tricks for returning to in-person STEM education

VIRTUAL GUEST SPEAKERS
How can you creatively introduce your students to real STEM professionals?

GIRLS STEAM SUCCESS CLUB
The importance and practice of engaging young women, especially youth of color, in STEM education
Tips and Tricks on Re-engaging Students with STEM In-Person

Erin Wiese-Reichert
Early Childhood Educator
1. Recognize the new normal of school

- New policies/procedures and time to adjust
- Separation anxiety exists
  - “It’s ok to be nervous.”
2. Establish Classroom Management

- Create classroom rules / expectations
- Create visual schedule / routine
- Model the behavior that you want (asking questions)
3. Create Open Communication

- Be clear with families on procedures, expectations, and why
  - Create a newsletter to keep families engaged and informed
4. Establish Relationships

- Take time to get to know the kids in your program
  - Beginning Circle Time
  - Ending Circle Time
  - Ask questions
5. Stay playful!
Virtual Guest Speakers

John F. Loehr; Ph.D.
Vice President-STEM Education
Science Olympiad
Science Olympiad

• Founded in 1984
  • To engage, excite, and inspire the next generation of STEM learners & professionals
  • Based on the belief that excellence in STEM should be as recognized as excellence in athletics

• Programs offered for all grades
  • Elementary (Division A)
    • Multiple different models (competitions, camps, Fun Day/Fun Night) based on objectives
    • Excellent partnership opportunity with parents
  • Middle School (Division B) & High School (Division C)
    • A school-based, afterschool team competition - academic track meet with individual & team awards
    • Teams of 15 compete in 23 events, each student competes in about 3 events
    • 450+ In-person tournaments annually

• Reach about 300,000 students annually
  • Approximately 8,000 elementary, middle & high school teams
  • All 50 states plus the District of Columbia
Pandemic Forced Pivot

• Shifted to a Virtual Format
  • Online from homes
  • Kept 22 of 23 events in each Division
• 370 Virtual Tournaments
  • 1st Ever Virtual National Tournament
• Professional Development Shifted Too
  • Workshops
  • Monthly Video Series (STEM Sessions)
Things to Look for in a Guest Speaker

- Meets your Organizational Need
  - Topic & Experience Alignment
  - Has Something Meaningful to Share

- Engaging Presence
  - Good Storyteller
  - Has Pictures
  - Safe, Simple Activities

- Understands Virtual
  - Experience with Your Platform
  - Has Access to a “Good” Space
  - Comfortable with Format Limitations
    - Limited Connections
    - No Direct Q&A
Where to Find Speakers

• Friends & Parents
• Aligned Institutions
  • Museums, Zoos, Aquariums
  • Colleges & Universities
• Professional Societies
• Chamber of Commerce
• Vendors & Suppliers
• Other Organizations
Ways to Make the Experience Better

• Clearly Spell Out Your Needs
  • Expected Audience
  • Agenda & Topics
  • Identify Features Available/Unavailable
    • Polls
    • Breakout Rooms

• Identify Things to Avoid
  • Topics (i.e., Politics, Climate Change, Religion)
  • Sales Pitches/Product Plugs
  • Examples

• Think About Visuals/Branding
  • Does it Matter?
  • Prepare Materials
    • Virtual Backgrounds
    • Slide Template

• Establish Roles
  • Admitting Attendees
  • Running Slides
  • Managing Chat & Questions
Girls STEAM Success Club
Holly Kelsven
Program Manager
Little girl just jumped into my arms and rested her head on my shoulder in the ED. Her dad said “she’s never seen a black doctor before and I think she thinks you’re Doc McStuffins” 😢
Scientists and engineers working in science and engineering occupations: 2015

- White men 49%
- White women 18%
- Asian men 14%
- Asian women 7%
- Black men 3%
- Black women 2%
- Hispanic men 4%
- Hispanic women 2%
- Other men 1%
- Other women 1%

NOTES: Hispanic may be any race. Other includes American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and multiple race.
Women, Minorities, and Persons with Disabilities in Science and Engineering: 2017
Haters are always gonna hate.

I actually almost never became a veterinarian because a man once told me I would never be good enough.

As a veterinary student months away from graduation, I am so glad I chose not to listen— but I almost did.
Science + MENTORS = Success
Crush your goals with our online club for high school girls!
build job skills / meet women in STEAM / explore citizen science

girls STEAM SUCCESS club

Additional support provided by

End of year MVP AWARDS by

Pathway to Summer SUCCESS scholarships by
“Our greatness comes when we appreciate each other’s strengths, when we learn from each other, when we lean on each other.”

Michelle Obama
I feel like the Girls STEAM Success Club has been an inspiration for me, and has helped me to reach my goals involving my career.

Alana Thompson
Girls STEAM SUCCESS Club, 2021
Goal Crusher Guide Book

Introduction
- Welcome to the Club!
- Attendance Tracker
- Internet Safety

SMART Goals
- Set a SMART Goal
- Long term dreams vs. short term goals
- Score your SMART Goal

STEAM Activities
- Citizen Science: All About Birds
- Girls Who Code

Conclusion
- Map Your Journey!

Job Skills
- Personal Mindset
- Planning for Success
- Collaboration
- Problem Solving

Career Explorer
- Career Tracker
- Career Girls Journal
- Career Action Plan

MHA Labs
- Girls Who Code
- Career Girls

citizen science
- all about BIRDS
Citizen Scientists: Why are they important to science?

AT-HOME ACTIVITY

1. Explore National Audubon Society’s “Survival by Degrees: 389 Bird Species on the Brink” to explore a range map of the black-capped chickadee, a native Illinois backyard bird. https://www.audubon.org/field-guide/bird/black-capped-chickadee

2. Scroll down to the range map titled: “How Climate Change Will Reshape the Range of the Black-capped Chickadee.”

3. Black-capped chickadees are common in Illinois and are attracted to backyard bird feeders. If you have ever seen a black-capped chickadee, what do you know about this bird species?

4. Explore the interactive map by doing the following:
   - Find and become familiar with the Map Legend
   - Locate the “Warming Scenario” temperature buttons. Click on the “Current” button and observe what happens to the data patterns on the range map. Click on the other Temperature buttons (+1.5°C; +2.0°C; +3.0°C) and observe how the data patterns change.

5. Write three questions that you still have after what you have learned in this lesson.

   1. 
   2. 
   3. 

4. What claim, or statement, can you make about the importance of citizen science data to scientists in their understanding of the survival of bird species?

   Claim: I think

   because
Why do you think citizen science is valuable to science research?

- Scientists can't be everywhere!
- It allows an opportunity for the most data to be collected around the world.
- Citizen science allows for more people to contribute to research.
- I think it's valuable because we know there are people/scientists that are passionate to make a change for the animals.
- I think citizen science is valuable because it gives you information that you may be interested in or didn't know. Also it's always good to learn something new.
- Because they can collect data or information to keep as records and to see the change in the world.
- allows people from all over the city to input their views of research.

Press $ to show image
Algorithmic Artist Game Planning Guide

Instructions
Use this guide to create the drawings you will use in your game. We will use four variables to generate the content of the drawing: type of shape, the number of shapes, the size of a shape, and the color of a shape. How you configure them is up to you!

- **Shape.** What shape will you use? For example, circle, square, rectangle, triangle, oval, line, hexagon, etc.
- **Number of shapes.** How many of each shape will you include in your drawing? We recommend 2-4 shapes for an easy drawing, 5-6 shapes for a more challenging drawing, and 7-10 shapes for the hardest drawing.
- **Size of the shape.** How big or small will it be? Tiny, small, medium, large can be relative to every player, so during gameplay you should think about how you can describe the size of a shape.
- **Color of the shape.** What color is it? Red, green, yellow, purple...

You can use the tables below to help you plan each drawing. We've provided each level with space to draw, but you can always add more to make it easier/harder, etc.
### Lia

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THANK YOU
MENTORS
How do you feel today at Girls STEAM SUCCESS Club?
Fatima MVP COMMUNICATION

14 hours of participation in Club meetings

Began volunteering at Homewood Science Center in 2019

SMART Goal: Get scholarships, save money for college, and get a job.
Girls STEAM SUCCESS Club Facilitator
optimallearning2@gmail.com

Holly Kelsven
Program Manager
hkelsven@homewoodsciencecenter.org

www.homewoodsciencecenter.org/girlsclub
Questions for our presenters?
How can students collaborate scientifically while staying socially-distanced?
What are your favorite little known STEM topics/themes/professions OST providers can highlight or explore with their students?
What is your key takeaway for program providers as it relates to engaging students in STEM OST education?
Upcoming ACT Now Events

**Using Data to Design Afterschool Programs**
PD webinar on 9/30 from 10 am - 11 am

**October Membership Exchange “LOA: Sparking Meaningful Connections”**
10/5 from 10 am - 11 am

**Supporting SEL for Afterschool Staff**
SEL webinar on 10/12 from 10 am - 11 am

**The Root of All STEM: Family Engagement in STEM OST Programming**
STEM webinar on 11/2 from 10 am - 11 am
Additional Resources

Afterschool STEM Guidebook

Science Curricula Matrix

Equity and Inclusion Assets for Afterschool and Summer Programs

Access code: MGM2021
THANK YOU!

Don’t forget to fill out the evaluation so we can continue to offer free PD and training opportunities to our members!

Questions?
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