

# Welcome to the NGCP National Webinar

## Resources for Afterschool Programs: Using the IF/THEN® for Programming

Tuesday, September 14, 2021

Please respond to the poll and introduce yourself in the chat.

Use the chat to ask questions, respond to one another, and share resources.

NATIONAL GIRLS COLLABORATIVE PROJECT



# NGCP Vision

The vision of the National Girls Collaborative Project is to **support and create STEM experiences that are as diverse as the world we live in.**



# OUR GOALS

1

**Maximize access** to shared resources within projects, and with public and private sector organizations and institutions

2

**Strengthen capacity** of existing and evolving projects by sharing exemplary practice, research, and program models, outcomes, and products.

3

**Create the tipping point** for gender equity in STEM by using the leverage of a network and the collaboration of individual girl-serving STEM programs

# NGCP Activities



MILLION GIRLS MOONSHOT



# National Network of Collaborative Teams



NATIONAL GIRLS COLLABORATIVE PROJECT



# Webinar Agenda

- Overview of the IF/THEN® Collection
- Background of the IF/THEN® Activities
- Introduction and Overview of the IF/THEN® Activities
- IF/THEN® Activities – Demonstration
- Tour the MGM Portal and Other Resources



# IF/THEN<sup>®</sup>

AN INITIATIVE OF LYDA HILL PHILANTHROPIES

All photos in this presentation are accessible for free for nonprofit and educational use and can be found in the [IF/THEN<sup>®</sup> Collection](#).



# IF you can see it, THEN you can be it.

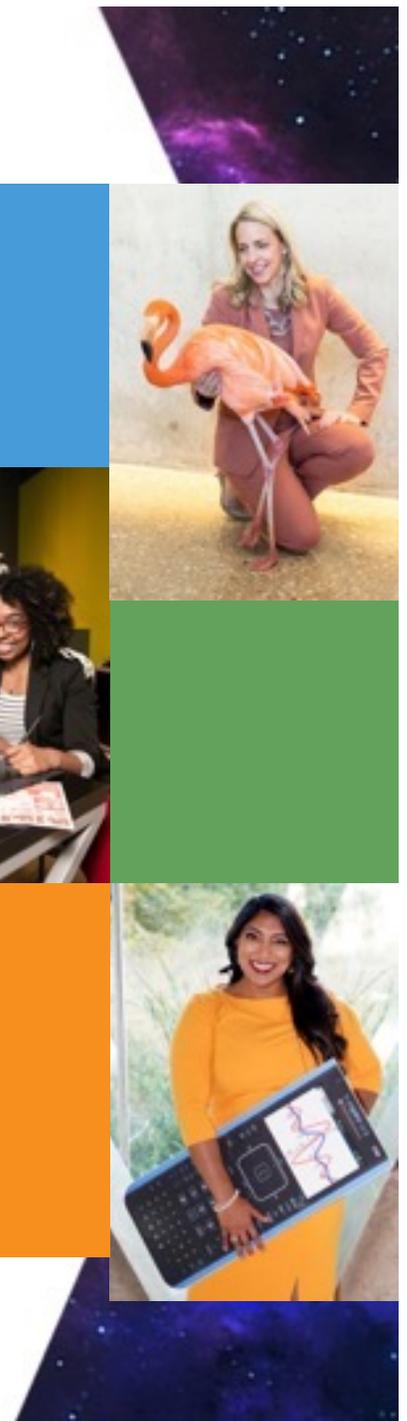
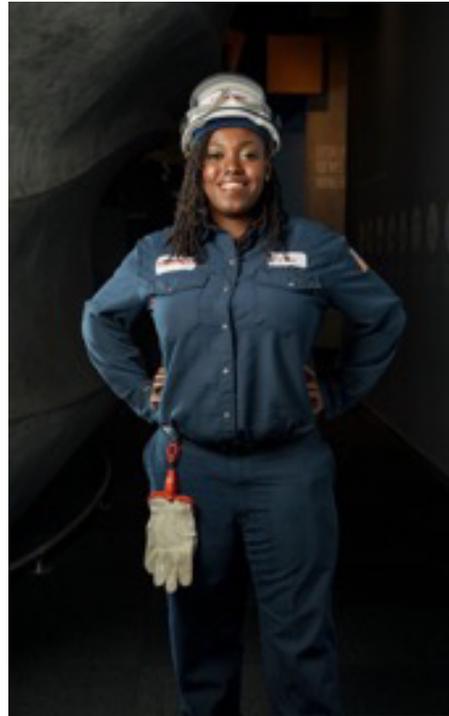
Today's real women in STEM  
inspiring tomorrow's next women in  
STEM

IF/THEN® seeks to further advance women in science, technology, engineering and math (STEM) by empowering current innovators and inspiring the next generation of pioneers. Rooted in a firm belief that there is no better time to highlight positive and successful female professional role models, IF/THEN® is designed to activate a culture shift among young girls to open their eyes to STEM careers.



# AAAS IF/TTHEN® Ambassador Program

125 Talented Women Across a  
Variety of STEM Fields



# Speakers:



**Lisa Regalla, Ph.D**  
CEO  
Regallium Consulting, LLC.

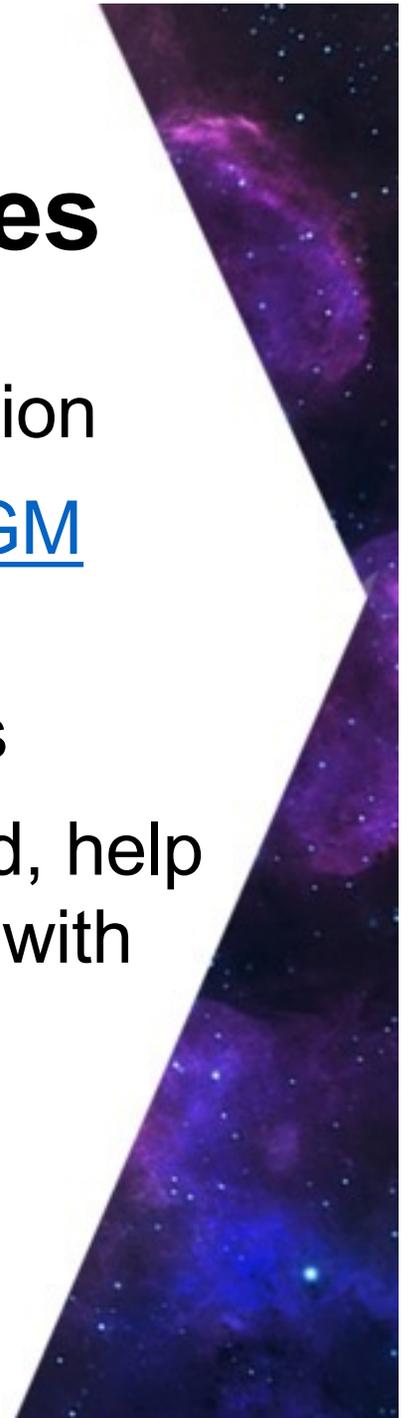


**Brenda Britsch, Ph.D**  
Senior Research Scientist  
National Girls Collaborative



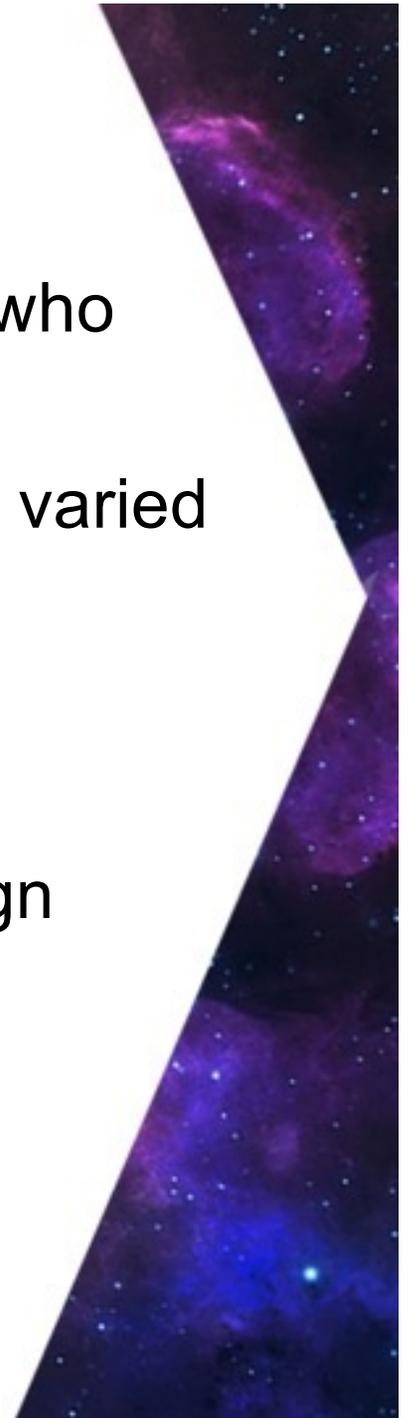
# IF/THEN Collection Activities

- Leverage assets in the IF/THEN Collection
- Align with components of the [NGCP/MGM Equity & Inclusion Framework](#)
- Designed for OST/afterschool programs
- Focus on topics that are research-based, help girls/young women engage and identify with STEM



# Topics

- Counter stereotypes of what STEM is and who does STEM
- Showcase STEM career pathways that are varied and sometimes surprising
- Highlight how STEM professionals are represented in the media
- Celebrate diversity in the engineering design process
- Help girls see themselves in STEM



# Lesson Overview

## STEM SUPERPOWERS

RECOMMENDED FOR: AGES 11-15

### GOALS

#### Participants will:

- Recognize that a variety of qualities contribute to a person's success in STEM.
- Identify at least two of their own qualities that strengthen their ability to do STEM.

### MATERIALS

#### For each Participant:

- Paper
- Markers or colored pencils
- Optional: clay or playdough

#### For the Educator:

- Large writing surface (chart paper, white board, chalkboard, etc.) and writing utensil
- Ability to project video with sound

### PREP (5 min.)

Place pieces of paper around the room – one for each participant that has their name on it. Cue up the videos to play during the Identifying STEM Superpowers section.

### ACTIVITY (45 min.)

#### GROUP ADMIRATION (10 min.)

*Tip* This activity is best done with a group that is comfortable with one another and has worked together before.

- 1 Start by setting some norms for the day on "respect." Ask what the word "respect" means to your group and write down their responses on a board or poster paper so they are visible during the activity.
- 2 Following the respectful norms you have just set, ask participants to walk around the room and write a word or short phrase that says what they admire about that person. Tell participants that they should write one thing on each person's paper. Feel free to play music during this time, but ask that the group not engage in any discussion.

*Tip* You may need to show a list of terms that students can use if they get stuck or need a place to start (e.g., confident, good friend, great listener).

#### IDENTIFYING STEM SUPERPOWERS (15 min.)

- 3 Watch a series of short video clips about STEM professionals and the various qualities that contribute to their success in their field. Tell participants that these are their STEM superpowers! Because making an impact through STEM is more than just about the grades you get, but bringing all aspects of your personality to your projects.

## STEM SUPERPOWERS

- 4 Ask participants to take notes on the various STEM superpowers that they hear about each person featured in the videos.



**VIDEO** [STEM Superpowers: Kimberly Sasa \(2:53\)](#)

**STEM SUPERPOWER** Athletic, artistic, collaborative (teamwork, communication, responsibility), weird



**VIDEO** [STEM Superpowers: Davina Durgana \(3:59\)](#)

**STEM SUPERPOWER** Smiley, happy, speaks French and Spanish, loves reading/writing (wrote short stories)

- ?** What were the STEM superpowers you wrote down about each person? Why do you think these are superpowers? How do you think they help these women in their STEM careers? Which STEM superpowers overlap with qualities that your peers saw in you? Or that you see in yourself? Are there any superpowers that you are still working on or would like to continue to develop?

#### CREATE YOUR SUPERHERO LOGO (20 min.)

- 5 Show a few examples of superhero logos and ask participants if they can identify which superhero it is just from the logo. These logos are symbols of who the superhero is and what they represent. Now it's your turn! Using at least 2 of the qualities you identified were your STEM superpowers, create a logo that represents you! (Encourage participants to use paper and markers/color pencils or clay/playdough if you have it available.)

*Tip* Emphasize that artistic ability is not what is important here so don't worry about logos being perfect.

- 6 Invite participants to place their logos around the room for display next to the papers that listed all of the things fellow participants admired about them. Then, have everyone take time to look at each logo and add additional appreciations (e.g., words, emojis) to the papers.

**?** What did you notice about the variety of logos represented? Are there any qualities that you saw in others that you would like to continue to foster in yourself?



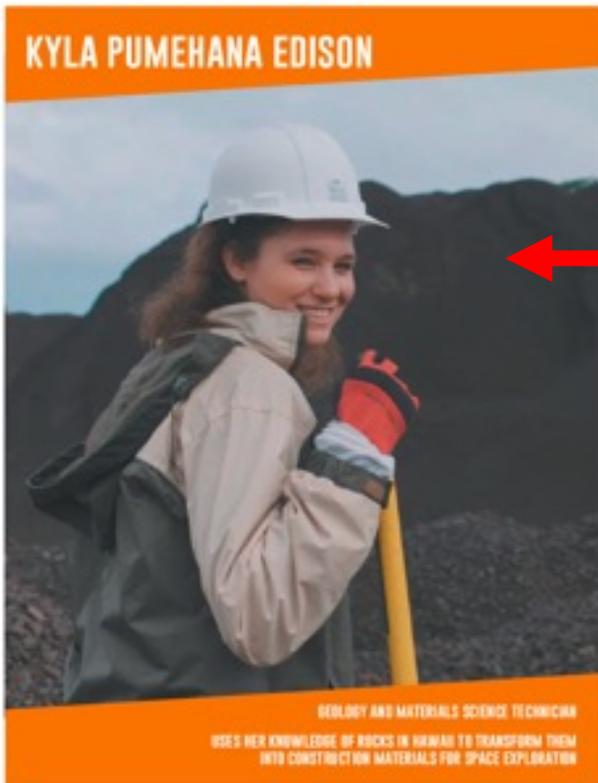
# STEM Journeys



1. Originally wanted to be a pastry chef.
2. Feels like her background in art helps her with her job to make something beautiful and durable.
3. After undergrad, she thought she would be a teacher and do Teach for America
4. Realized that no one goes into STEM knowing everything about it



# STEM Journeys



1. Originally wanted to be a pastry chef. →
2. Feels like her background in art helps her with her job to make something beautiful and durable. ←
3. After undergrad, she thought she would be a teacher and do Teach for America →
4. Realized that no one goes into STEM knowing everything about it ←



# Diverse Minds in Design

**RECOMMENDED FOR: AGES 13-15**

## DIVERSE MINDS IN DESIGN

### GOALS

**Participants will:**

- Learn how product engineers use prototypes to test design ideas.
- Discover how representation or lack thereof can impact product design and the ability to solve problems.

### MATERIALS

**For the Educator:**

- Timer
- Ability to project video with sound
- Large writing surface (chart paper, white board, chalkboard, etc.) and writing utensil

**For each group of 3-4 participants:**

- Scissors
- Paper and pens/pencils
- Tape (any type)
- 2-4 pieces of at least 6 different building materials. This could include: recyclables, pipe cleaners, scrap paper, aluminum foil, popsicle sticks, cotton balls, paper clips, clay/playdough, fabric scraps, etc.

### PREP (10 min.)

- Gather all of the materials for participants and distribute them so that each group of 3-4 participants has a set of materials readily available at their desks/benches.
- Cut up the videos to play during the reflection.

### INTRO TO PROTOTYPES (5 min.)

- 1 Ask if anyone knows what a prototype is? (an early sample or model) What types of materials do you think product engineers use to make their prototypes? (cardboard, wood, 3D printed, etc.) Why might an engineer make a prototype when they are designing a product? (They want to test out their idea before spending the time and money to build it fully.)
- 2 Share that participants will be working in groups of 3-4 as a team of product engineers. All groups will be presented with a design challenge and must work together to build a prototype using the materials provided.

### DESIGN CHALLENGE #1 (25 min.)

- 3 Write on the board or chart paper the chosen design challenge. Either pick from the ideas listed below or create your own based on your participants' current interests.
  - Design a safe way to remove trash from the sides of the road.
  - Design a way to sort recycling from compost.
  - Design a student desk and chair that is universally accessible.
  - Design something to help a shy or nervous person feel safe in a crowd.
  - Design a method to get the chicken safely across the road.

to a group they will have 5 and sketch design ideas large and then must will build a prototype vided. Use a timer and time is running low to Let participants know reference the materials ming, but should

ve to build their provided.

prototype and it's just a rough solution

ask one or another and the is right. Hmp

### OPTIONAL: DESIGN CHALLENGE

- 8 Present the groups will challenge and write it paper. Again, feel free list above or modify interests of your par
- 9 Engage in a whole to come up with a to this new challenge on the bar
- 10 Now, have part 3-4. Give them ideas that war 1 to move for of with the tr participants but should
- 11 Use the tr groups tr

### REFLECTION (10 min.)

Do you think products you use every day were created by people that represent you and your needs? Why or why not?

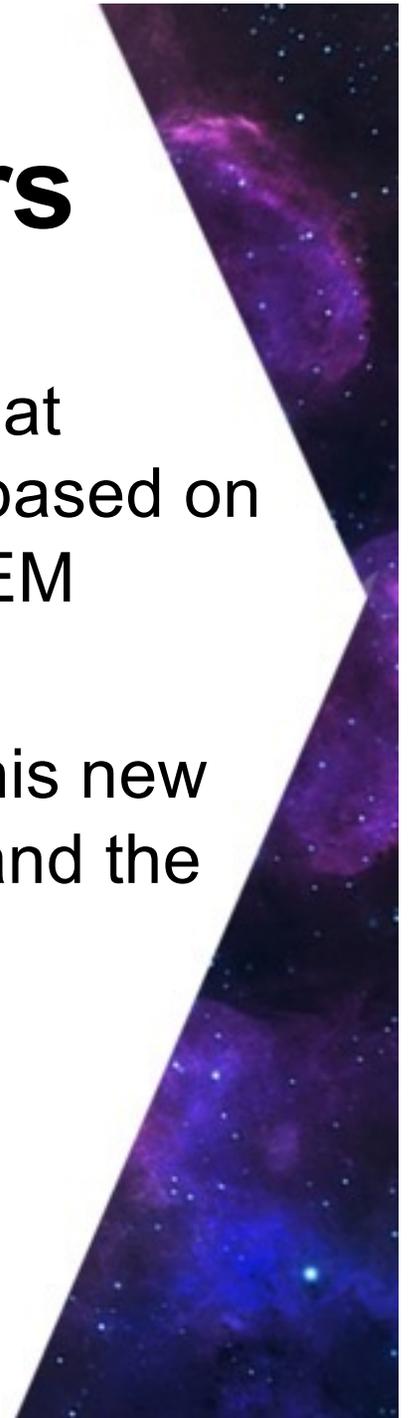
- 12 Explain that, historically, product engineers fell into a small subset of the population (mainly white men), but there are amazing individuals out there who are thinking about representation in product design and how to make sure that diverse minds lead to better solutions.
- 13 Show the following IFTTHEN video clips:
  - [Diverse Minds in Design: Crystal Emery \(2:02\)](#)
  - [Diverse Minds in Design: Queen Dorcas \(2:42\)](#)
  - [Diverse Minds in Design: Debbie Sterling \(2:54\)](#)

Why do you think it is important to have diverse perspectives when designing products? What resolved with you most about Crystal, Queen, and Debbie's stories? Why? What can you do to make sure that all ideas are valued?



# Representation Matters

- Imagine that YOU are a movie producer that needs to create a screenplay for a movie based on the real-life adventures of an amazing STEM professional.
- Work with your group to create a plot for this new feature film using at least 4 of the photos and the Movie Storyboard as a guide.



**IF/THEN** *Collection* MOVIE STORYBOARD

1 Introduction

Paste photo here

2 Rising Action

Paste photo here

3 Climax

Paste photo here

4 Falling Action

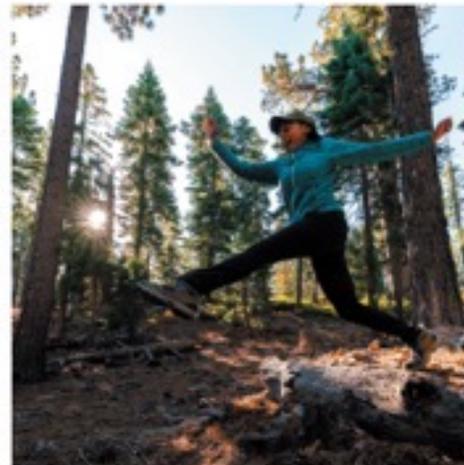
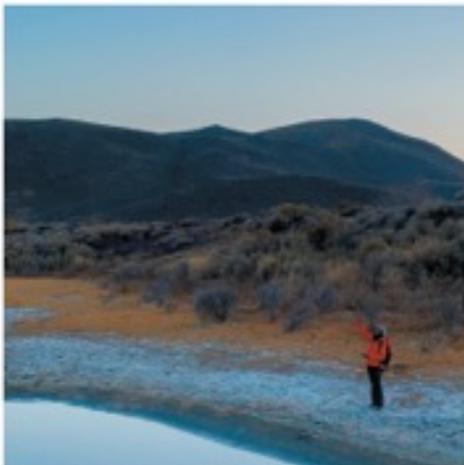
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5 Resolution

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**IF/THEN**  
*Collection* RAE WYNN-GRANT



# Q&A



# IF/THEN® Collection MGM Portal



## Resources:

- [www.ifthencollection.org](http://www.ifthencollection.org)
- [www.ifthenshecan.org](http://www.ifthenshecan.org)
- [www.ifthencollection.org/MGM](http://www.ifthencollection.org/MGM)

Jessica Hay

Marketing and Partnerships Manager

[jhay@ngcproject.org](mailto:jhay@ngcproject.org)

IF/THEN® Collection Access Code:

- NGCP2021

IF WE SUPPORT A WOMAN IN STEM, THEN SHE CAN *change the world.*



# Upcoming NGCP Events



**Innovative Strategies from the Field:  
Leveraging the IF/THEN® Collection**

November 8, 2021, 11:00am Pacific

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**Addressing STEM Stereotypes and Biases:  
Facilitating Challenging Conversations with Youth**

September 15, 2021, 1:00pm Pacific



**TECHNOLOchicas: Transforming the T in STEM**  
October 5, 2021 at 2:00pm Pacific / 5:00pm Eastern

