Gender Equity in STEM

October 23, 2024

IF/THEN® CHAMPIONS NETWORK

ASTC Association of Science and Technology Centers

NGCP National Girls Collaborative Project

Welcome!

Share in the chat: What is something you are excited about personally or professionally in the next few months?

Agenda

- Introductions
- Network Welcome & Goals
- Network Structure & Activities
- Gender Equity in STEM
- Upcoming Activities
- Questions

IF/THEN® CHAMPIONS NETWORK

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Senior Program Manager

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Senior Manager, Programs & Partnerships

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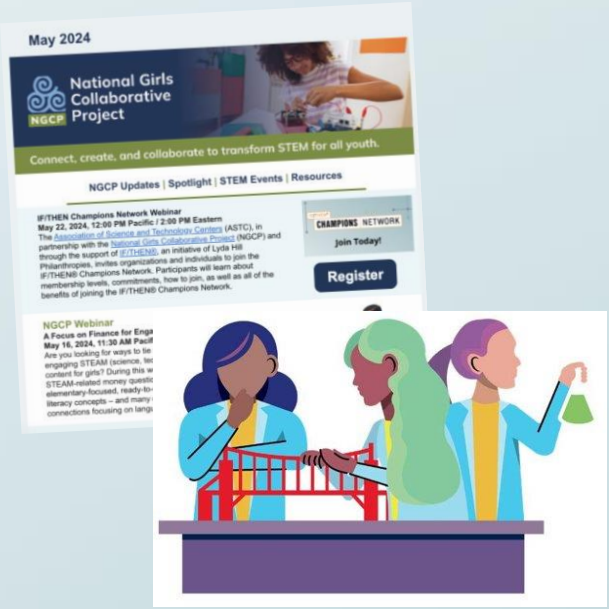
NGCP

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.**



NGCP Resources:

- National Webinars
- Monthly Newsletter
- Website featuring research and statistics related to girls and women in STEM
- Partner Projects

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ASTC
Association of Science and Technology Centers

Amanda Fisher
Assistant Director of Programs

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ASTC Association of Science and Technology Centers

ASTC **creates strategic opportunities**, **develops intellectual capital**, and **assembles resources** to support our members in realizing their missions and engaging their communities.

- Funding opportunities
- Annual conference and convenings
- Professional learning & development

IF/THEN® CHAMPIONS NETWORK

IF/THEN®
Champions Network

Goals

Join a growing movement of institutions and individuals **committed to advancing gender equity within STEM fields** via the IF/THEN® Collection.

The network goals are to **activate and grow a network** of museums and individual members that will champion gender equity work, support the overall goals of the IF/THEN® initiative, provide mutual support, and act as institutional resources for others.

The **IF/THEN® Collection** is the largest free resource of its kind dedicated to increasing access to authentic and relatable images of real women in STEM.

The Collection is part of the IF/THEN® Initiative, a national effort sponsored by Lyda Hill Philanthropies® to inspire young girls to pursue STEM careers while creating a culture shift in how the world perceives women in STEM.

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Membership Levels

Individual

For **educators, exhibit developers, and others** who support the IF/THEN® initiative but may not be housed within an organization or who have not yet obtained an organizational commitment.

Individual members do not need to belong to an ASTC member organization or be in the United States to join.

Organizational

For **ASTC member organizations** in the US, including museums, science centers, and allied members.

Organizational members are required to complete the organizational commitment form. This is a high-level commitment that acknowledges the specific requirements that accompany organizational membership.

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Member Activities

Quarterly Webinars

- May, July, and October 2024
- 2025 webinar schedule shared later today
- PD, guest speakers

Suite of Resources

- IF/THEN® Collection, Project Library, Gender Equity Toolkit
- Media Toolkit
- LinkedIn Group

ASTC Annual Conference

- September 6-9, 2025 in San Francisco, CA

Email Communications

- Network updates
- IF/THEN® Collection highlights and updates
- Engagement opportunities

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Additional Activities for Organizational Members

Organizational Planning Sessions

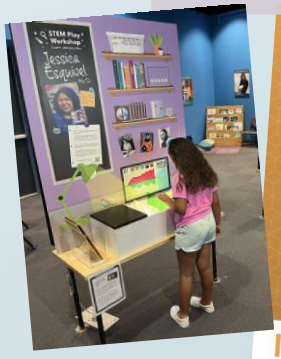
- Examine organizational strengths and goals for advancing gender equity

Welcome Kit

- IF/THEN®-branded materials to display at your organization

Funding Opportunities

- ASTC conference funding in 2025, exhibit content, and IF/THEN® exhibit and program grants



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Gender Equity in STEM

NGCP

CONNECT + CREATE + COLLABORATE

Gender Equity in STEM

IF/THEN® Champions Network, October 23, 2024

Agenda

- Reflection & Activity
- Gender Equity & STEM
- Strategies & Resources
- Messaging Matters Activity

Equity and STEM Slido Poll

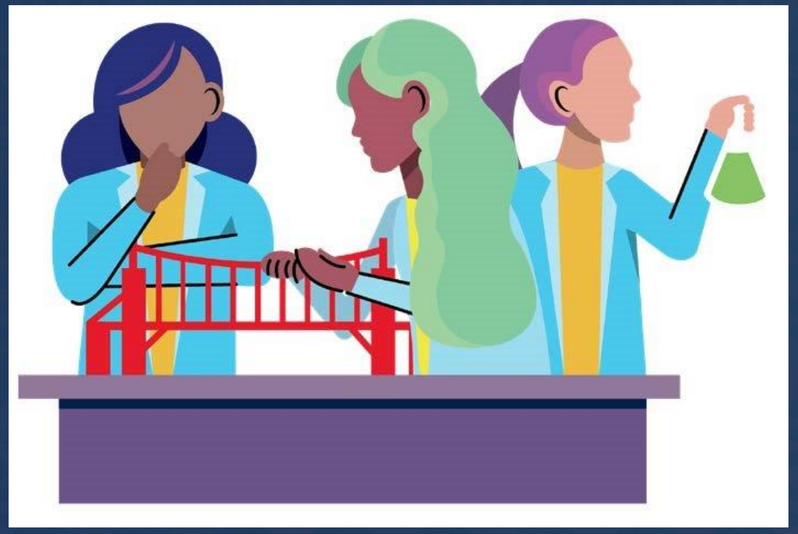
Use your phone or open a new tab in your browser!

- Scan this QR Code on your phone or visit www.slido.com and enter code: #3280109 to join our Slido poll.
- Answer 2 short questions via Slido. Your answers are anonymous but will populate in a word cloud.
- Short words, initial ideas, and phrases are fine!

www.Slido.com
Code: **#3280109**

Why Equity and STEM?

- Women and girls are capable and valuable to STEM.
- Women continue to be underrepresented in STEM studies and careers, especially in engineering, computer science, and physics.
- The STEM workforce needs diverse perspectives and ideas to drive innovation and address interconnected problems.
- Women in the STEM workforce make less on average than men and are less likely to reach leadership positions in the STEM workforce.



We want to transform STEM spaces and address discriminatory practices that normalize inequities.

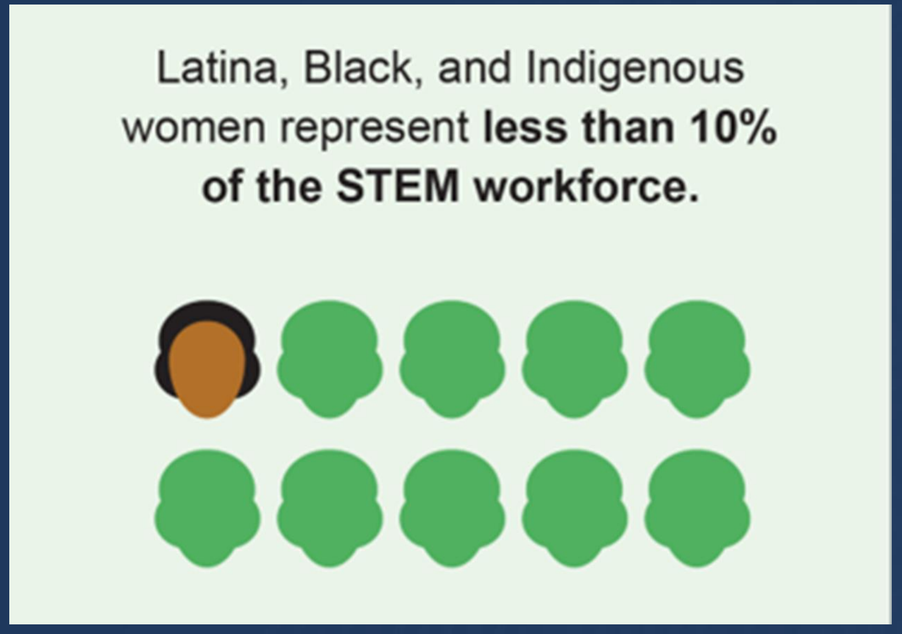
Barriers to Equity in STEM

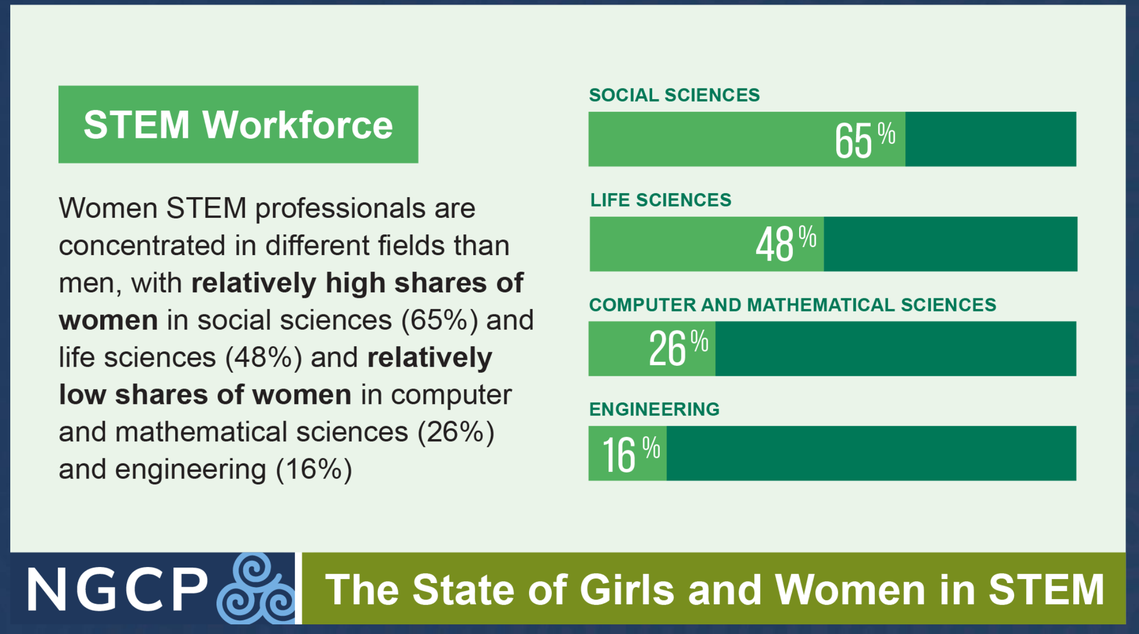
- Lack of access to high-quality STEM opportunities.
- Persistent stereotypes about STEM people and careers.
- Curriculum that is not personally or culturally relevant.
- Lack of exposure to relatable role models.
- Lack of support networks and mentorship.
- Gender norms and institutionalized practices, such as the “ideal worker norm”.
- Biases, microaggressions, discrimination, and harassment in education and the workplace.

Rooted in the impacts of intersectional inequalities and systems of oppression, including patriarchy and systemic racism.

Women in STEM

- Women make up nearly half the U.S. workforce, but only 35% of the STEM workforce





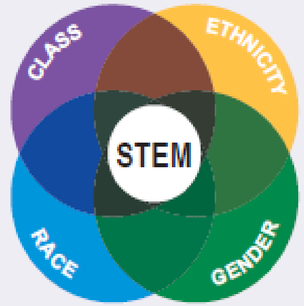
STEM Experiences

Differences exist in:

- Interest and confidence in STEM
- Perceived sense of belonging in STEM
- Perception of future success in STEM

Girls' and young women's achievement in mathematics and science **is on par with that of boys and young men.**

For girls/young women of color and girls/young women from lower socioeconomic status, **the impacts of the intersectional inequalities of gender, race, ethnicity, and class** can hinder identification with and long-term participation in STEM.



Gender Equitable Strategies

Strategies to Foster a Positive STEM Identity:

- Make STEM Personally and Culturally Relevant
- Counter STEM Stereotypes
- Integrate Diverse Role Models

Make STEM Personally and Culturally Relevant

- Draw on girls' interests, knowledge, background, skills, culture, and lived experiences
- Connect STEM to issues girls care about
- Create a supportive environment for girls to feel welcome, safe to take risks, and build relationships

Chat Reflection:

- Is there an exhibit in your museum that is personally or culturally relevant to you and why?

Resources

- Career Girl Quizzes
- EngineerGirl
- Messages Matter
- NGCP Webinar: Making STEM Meaningful for Girls

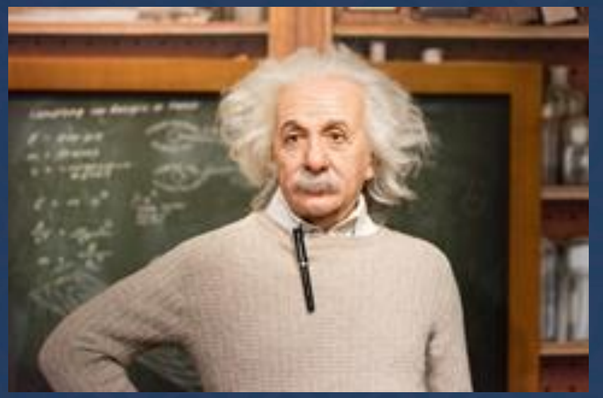
Messaging that appeals to girls:

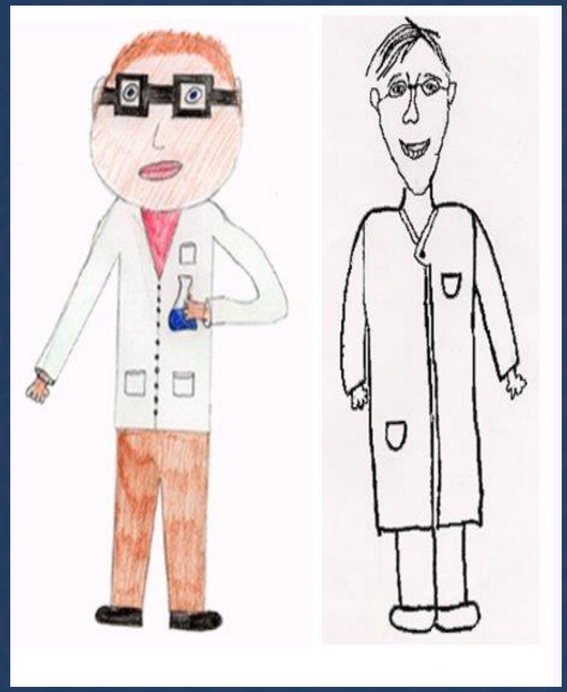
- Make a difference
- Do meaningful work
- Be creative
- Earn a high salary

STEM Stereotypes

- STEM is for boys/men
- STEM people are naturally brilliant
- STEM is difficult
- STEM does not relate to me, my life, or my community
- STEM people are naturally gifted in math and science
- STEM people work alone
- STEM careers do not make a difference in the world

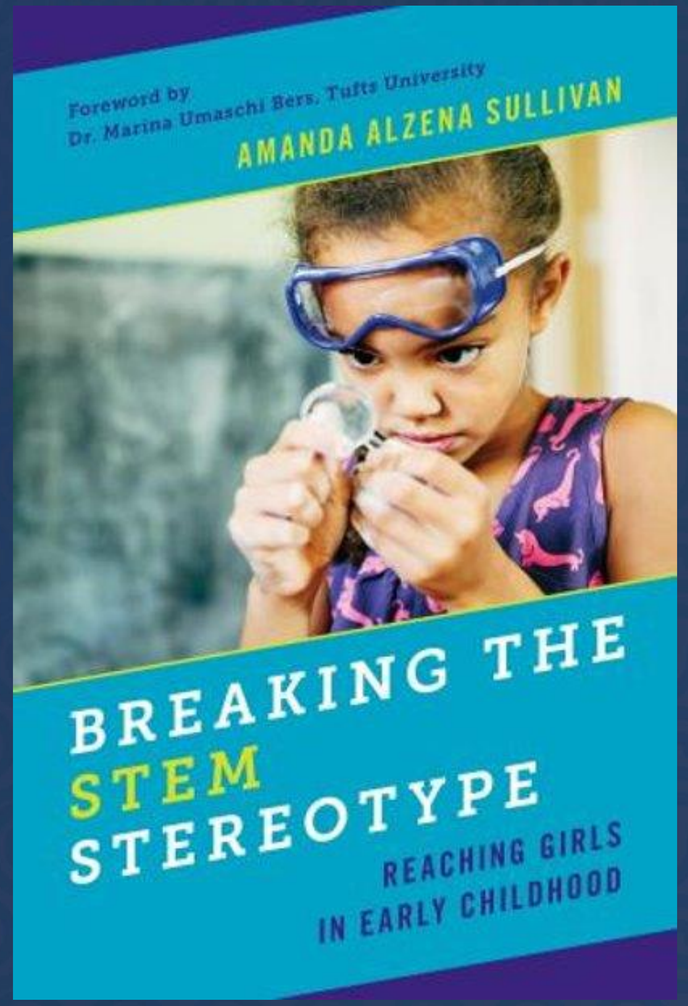
Are there other stereotypes you or your youth have experienced? Share in the chat.





Stereotypes Form Early

- **Basic stereotypes** begin to develop in children around two to three years of age
- **By kindergarten,** children have developed a range of stereotypes about STEM
- **By adolescence,** stereotypes impact confidence, interest, and likelihood of pursuing STEM



Countering Stereotypes

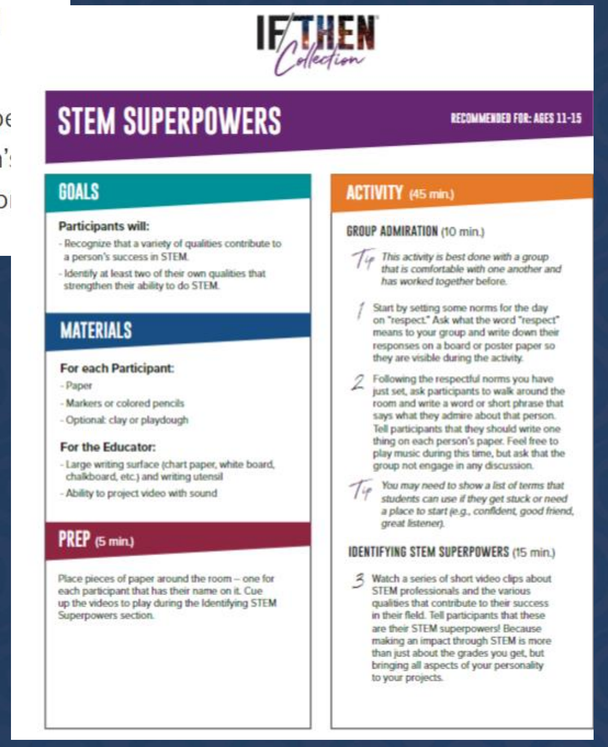
- Make connections between girls' cultural and social backgrounds and STEM
- Showcase the diversity of STEM people and careers
- Foster discussion of stereotypes related to STEM people, skills, and career pathways
- Show how STEM is collaborative and social
- Reflect on your own beliefs, mindsets, and messaging

Resources

- Addressing STEM Stereotypes with Youth and Young Adults
- Addressing STEM Stereotypes and Biases: Facilitating Challenging Conversations with Youth
- 5 Ways to Counter STEM Stereotypes in Children and Youth
- STEM Superpowers Activity

5 Ways to Counter STEM Stereotypes in Children and Youth

Beginning at an early age, stereotype
have the power to influence children'
interest, confidence, and identificatio
with STEM. Learn how to...



IF/THEN Collection

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.

Chat Reflection:

- Who is your role model and why?

Integrate Diverse Role Models

Why Role Models?

- Counter stereotypes of what STEM is and who does STEM
- Broaden the notion of STEM fields and journeys
- Make STEM personally and culturally relevant
- Show how STEM is collaborative and social

Characteristics of Effective Role Models

- Race, ethnicity, age, ability, career stage, discipline, and STEM journey
- Supportive, engaging, relatable: have conversations with girls
- Enthusiastic about learning, especially STEM
- Share personal and professional aspects of their STEM journey
- Honest about their experience: Successes, risks, and challenges

Resources

- IF/THEN Collection
- SciGirls Role Model Videos
- Poster collections
- Local connections:
  - STEM-related businesses
  - Family members of youth participants
  - Professional organizations
  - Post-secondary students
  - Near-peer role models

Messages Matter

How (or would) you improve the messaging on any of the images on the following slide?


STEM Clubs Near You


STAR WARS
S.T.E.M. ACTIVITIES
SCIENCE TECHNOLOGY ENGINEERING MATH
IN OUR POND


E11
Building Sets
Girls' Building Sets

Contact Information

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- Amanda Sullivan, Senior Researcher: asullivan@ngcproject.org
- Kata Lucas, Senior Researcher: klucas@ngcproject.org

www.ngcproject.org

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Learn more at **ngcproject.org**

Upcoming Opportunities For Organizational Members

Timeline Overview

Exhibit Kit 1

This is what a Scientist Looks Like Displays

Exhibit Kit 2

STEM Play Workshops

Exhibit Kit 3

Content TBD

October

May

January

2024

2025

2026

January

March

September

ASTC Conference Stipends

"Design Your Own" Grants Open

Program and Installation Stipends Open

Exhibit Kit 1: This is What a Scientist Looks Like Displays

- Created with input from you!
- You select the content themes and formats (ex. pop-up banners, metal prints, foam core posters),
- ASTC prints and ships directly to you
- Application process is simple and all Organizational Members are eligible to receive a FREE kit
- Request your kit anytime October - February

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Content Theme Options

Theme A:
Diving Deep

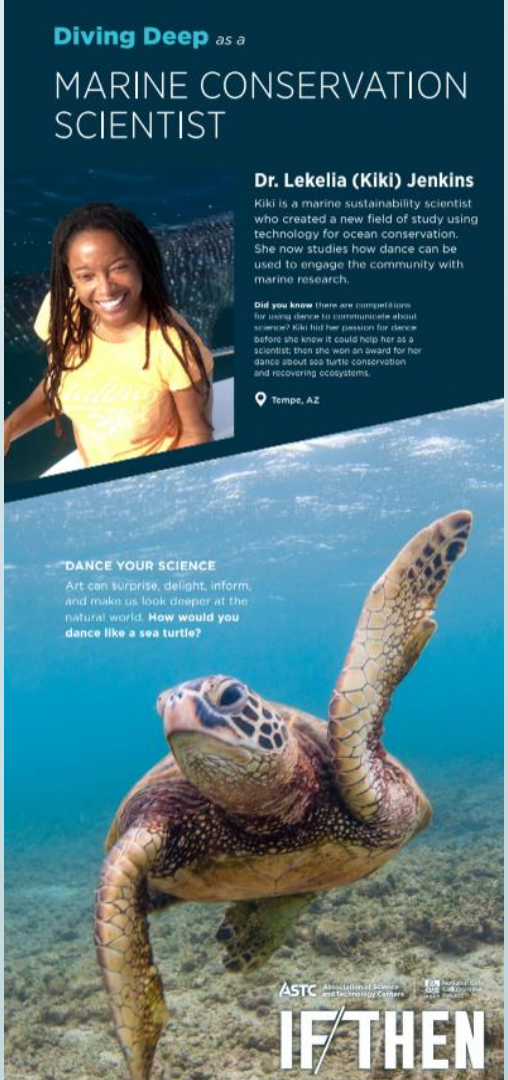
Theme B:
Engineering New Paths

Theme C:
Living Wild

Theme D:
Powering the Planet

Theme E:
Reaching the Stars

Content Theme Options



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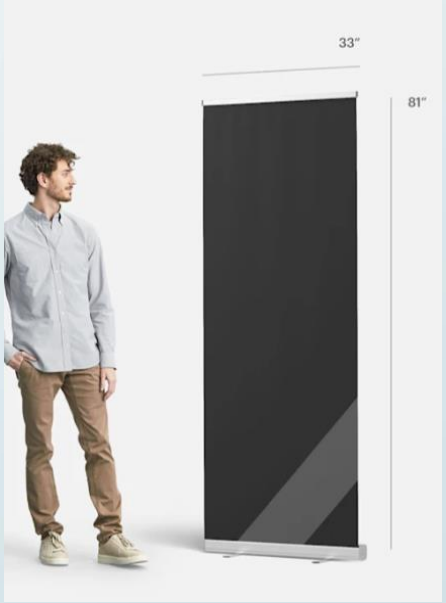
Material Options



Retractable Banners

Metal Prints

Foam Core

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Introductory Panel

- Optional
- Can be customized with your organization's logo
- Ties together other IF/THEN® content
- 90"x96" double-sided tension fabric

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CHOOSE ONE OF THESE 6 OPTIONS:

RETRACTABLE BANNERS

Printed on 33" x 81" vinyl. Preassembled with stand and case for durability and mobility.

METAL PRINT

Printed on 24"x36" metal plate. Durable, glossy aluminum with keyhole and French cleat for hanging.

FOAM CORE

Printed on a 24"x36" foam core board. Lightweight. Least resilient option.

with INTRODUCTORY PANEL	without INTRODUCTORY PANEL
 Intro + 1 content theme	 2 content themes
 Intro + 1 content theme	 2 content themes
 intro + 3 content themes	 5 content themes

Exhibit Kit 2: STEM Play Workshops Request For Proposals

- ASTC is searching for a contractor to assemble and distribute 30 kits!
- View the RFP at bit.ly/IFTHEN_RFP (or by scanning this QR code →)
- Proposals Due November 1
- Contractor will be selected by end of 2024

Reach out to ifthen@astc.org if your museum is interested in partnering with us!

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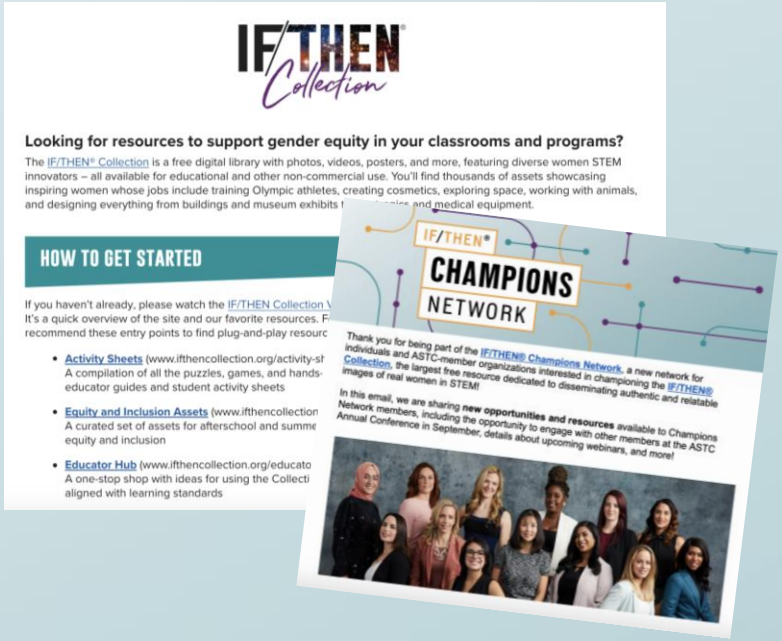
Resources and Upcoming Activities

Resources

Access resources at: https://ngcproject.org/ifthen-champions-network

- Links to IF/THEN® Initiative and Collection resources
- Instructions for requesting and downloading assets
- Media and branding guide
- Link to join the LinkedIn Group
- Details about upcoming webinars and an archive of past webinar recordings
- Details about network communications and an archive of past email communications



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Upcoming Activities

- **2025 Network Webinar Schedule**
  - February 19, 2025
  - May 28, 2025
  - July 16, 2025
  - October 22, 2025
  - All webinars will be at 11 AM PT / 12 PM MT / 1:00 PM CT / 2:00 PM ET
- **2025 Annual ASTC Conference: September 6-9, 2025, in the San Francisco Bay Area –** mark your calendar now!
- **Other activities to come**

Questions?

You can also email questions to
Emily Early at eearly@ngcproject.org


Global Air Circulation
Rising, Falling, Spinning, Blowing
An Invisible Sea of Air


AbilityLab