



# Creating Connections with Role Models: The Power of Collaboration



## Acknowledgments

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## In this guide...

This guide is designed to help you recruit and prepare role models to inspire girls in science, technology, and engineering. We outline our “recipe for success” for role models and provide tips for training. While this guide has been designed with input from partners in the National Girls Collaborative Project, we encourage you to tailor our suggestions to meet the needs of your role models and the interests of your girls.

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Additional activities, icebreakers, and resources are available on our website.

[techbridgegirls.org](http://techbridgegirls.org)

# The Partnership

## About the National Girls Collaborative Project

The National Girls Collaborative Project (NGCP) seeks to maximize access to shared resources within projects and with public and private sector organizations and institutions interested in expanding girls' participation in science, technology, engineering, and mathematics (STEM). The NGCP is a national network of more than 4,000 girl-serving STEM organizations. Currently, 31 Collaboratives, serving 40 states, facilitate collaboration between organizations that serve more than 8 million girls and 4.4 million boys. The NGCP strengthens the capacity of girl-serving STEM projects by facilitating collaboration among programs and organizations and sharing promising practices, research, program models, and products through webinars, collaboration training, forums and institutes. The project's active investment in community partnerships is key to its success.

## About Techbridge

Techbridge was launched in 2000 in Oakland, California with the mission to inspire girls in science, technology, and engineering. Our vision is to create a future where girls and underrepresented groups play a larger role in these fields and where all girls have the opportunity to explore the wonders of science and engineering. Techbridge has served more than 5,000 girls in after-school and summer programs in the San Francisco Bay Area and thousands more through our partnership with Girls Scout councils nationwide. Techbridge is part of the leadership team of the California Girls in STEM (CalGirls) Collaborative Project.

Our role model program is one of our most important—and impactful—elements of Techbridge. Role models share their passion for their professions, dispel misconceptions about STEM, and inspire girls to study and pursue a career in STEM.

*“Research and experience have demonstrated the dramatic impact a role model can have for girls who are considering STEM careers. The Techbridge Role Models Matter resources are critical elements for success for our National Girls Collaborative Project networks as they provide valuable professional development for practitioners and programs in their states.”*

*– Karen Peterson, Chief Executive Officer for the EdLab Group and Principal Investigator for the National Girls Collaborative Project*



# The Role Model Difference

Research shows that role models are important for expanding career options and introducing girls to STEM careers. While most young children—girls and boys—say that they like science, differences in confidence and interest in STEM begin to emerge in middle school. In high school, girls may enroll in as many advanced math and science courses as boys and perform just as well, but fewer high school girls pursue technical majors in college, particularly in engineering and computer science. Introducing girls to role models can change these outcomes.

## The current representation of women and other underrepresented groups in STEM fields remains alarmingly low:

- The U.S. Department of Commerce reports that only 14% of engineers are women and that 5% of STEM workers overall are from underrepresented groups.<sup>i,ii</sup>
- At the college level, women account for only 18% of those earning a bachelor's degree in engineering.<sup>iii</sup>

## There is a need for role models, and they do make a difference:

- Less than 50% of high school girls know a woman in a STEM career.<sup>iv</sup>
- 93% of Techbridge program participants say that field trips and role models made them more interested in working in technology, science, or engineering.<sup>v</sup>
- Exposing girls to female role models helps to counteract negative stereotypes about women and STEM.<sup>vi,vii</sup>

# Finding Role Models

One of the first questions we are asked by partners is “Can you help us find role models?” Computer scientists and electrical engineers are in your community, whether you live in a rural or urban area. Role models may be neighbors and friends or people who work in local businesses, universities, and museums. Don’t be shy about asking them to be role models; many people just need an invitation. Once you start, you’ll find it gets easier to ask.

## 1

### Community as a Resource.

- Start with **people you know**. Let colleagues, friends, and family know that you are looking for role models.
- Participate in a forum hosted by the **Collaborative** in your region to recruit role models through existing and new partners.
- Network with members of your **local Collaborative** to find out where they recruit role models.
- Look for **mini-grants** through NGCP to fund projects with role models.
- Enlist **high-school girls** in events. They can be effective hosts of engineering challenges and serve as role models to younger girls.
- **University faculty and students** can be inspiring role models and offer a unique perspective. Student chapters of the Society of Women Engineers (SWE) and other STEM groups are committed to outreach.
- **Staff at technology and science museums** not only make fascinating role models but may also offer behind-the-scenes experiences at their sites and insights into emerging fields in science and technology.
- **Local businesses and corporations** know that their long-term success lies with the next generation. Start with the community relations or human resources department to help recruit role models.
- Look online for **professional groups** that have a mission to do outreach. For example, members of the Association for Women in Science and SWE are eager to volunteer and passionate about their fields.
- **Reach out to groups** like the National Society of Black Engineers and the Society of Hispanic Professional Engineers for role models from diverse backgrounds.
- Don’t forget to **invite role models** who can show by example that they did not let a disability limit their options.
- **FabFems** is a growing database of role model profiles. You can search by location, career field, and other keyword interests. Looking for someone to help lead an engineering activity at one of your programs? Find her at [fabfems.org](http://fabfems.org).
- Use **social media** including Facebook and Twitter to get the word out that you need role models.



## MEN ALLOWED!

### WE ARE OFTEN ASKED, "CAN MEN BE ROLE MODELS TO GIRLS?"

We recommend a combination of role models—females and males—who are passionate about their work and just as passionate about encouraging girls to follow their dreams. Girls benefit from hearing from men that they are welcome and will make important contributions in science and technical fields. Regardless of a role model's gender or ethnicity, when girls feel that a role model cares about her and is supportive of her ideas and dreams it makes a difference.



## 2

### Go Digital.

You can supplement in-person role models with online resources to introduce a new career or activity and to make connections to real-world issues. Online profiles can help expose girls to an array of role models from different backgrounds, careers, and disciplines.

#### Some of our favorite resources include:

- > [dotdiva.org](http://dotdiva.org)  
Profiles of women in computer programming
- > [Girlscouts.org/imagineengineering](http://Girlscouts.org/imagineengineering)  
Interviews and profiles of women in engineering including guides for Hispanic, African American, and Native American girls
- > [engineeringyourlife.org](http://engineeringyourlife.org)  
A guide to engineering for high school girls
- > [engineergirl.org](http://engineergirl.org)  
Highlights of opportunities for girls in engineering
- > [wonderwise.unl.edu](http://wonderwise.unl.edu)  
Award-winning series with videos and activity kits for 4th through 6th graders
- > [women.nasa.gov/a2i](http://women.nasa.gov/a2i)  
An inspiring site profiling the women of NASA
- > [pbskids.org](http://pbskids.org)  
Video profiles of women and men highlighting STEM projects

### ROLE MODELS FOR ALL!

*"I can do anything if I set my mind to it and if I work really hard."*

After working on a hands-on STEM project and meeting a role model, this reflection was shared by a girl with a visual impairment. We encourage you to invite girls and role models with disabilities to your outreach events. Look for role models who can show by example that STEM is accessible. They can challenge stereotypes and encourage girls in science and technical pursuits.

# The Recipe for Success

Impactful interactions with role models require the right combination of academic and career guidance and social engagement. Whether you are planning an all-day event with college students for 200 girls on a university campus or an event for 15 girls in an after-school program, we recommend following a schedule that incorporates the following essential elements.



## Role Model Visit: Sample Schedule (1.5 HOURS)



Each element of the role model visit builds upon the others. Girls and role models should have the opportunity to get to know each other, engage with hands-on activities, and talk about the real-world applications of the activity. To strengthen the impact of role models, check out the following tips.

- **Icebreakers** are often used to introduce and get to know each other. To warm up the group, the icebreaker should be interactive and fun. Icebreakers can also introduce science and engineering concepts and vocabulary that will be explored during the activity as well as help role models get an understanding of the background knowledge of the group. By building a relationship with the girls through an icebreaker, role models set the stage for increased motivation and engagement.
- During **introductions**, role models share their personal story. Personal stories engage girls and help them connect to the role models' lives and careers. Girls enjoy hearing about family, hobbies, dreams and aspirations, and stories that help dispel stereotypes. Through their stories, role models can describe how their career path developed and how they dealt with challenges along the way. Role models should highlight the creativity involved in their job and how they make an impact in the world. Artifacts from work and pictures of family and hobbies help keep girls engaged.
- **Hands-on activities** help girls connect to role models' careers. Encourage role models to pepper information about their career throughout the activity. If there is not a direct connection between their career and the activity, role models can highlight the processes they use in their work like the engineering design process, scientific method, and collaboration.
- Watch the clock. Hands-on activities often take longer than anticipated and closing conversations can get shortchanged. It is important to save time for **reflection**. Reflections can help make connections between the activity and role models' careers, relate the activity to real-world applications, offer suggestions for how girls can follow up and learn more, and address any remaining questions.
- Schedule time for role models to **interact informally** with the girls. This can happen during a lunch break or at the end of an event. These opportunities are particularly important for girls who are not comfortable asking questions in larger groups. Questions and prompts can be provided to role models and girls in advance to help jumpstart conversations.



# Get Started

Good projects take time to plan. Collaboration helps. Not only will it take less time if you work with partners, but your role model outreach will be more successful. Turn to your Collaborative for ideas for role models and resources to support your work. Through the NGCP mini-grant program you may be able to collaborate with another person or organization and receive funding to help with your event. Check out [ngcproject.org](http://ngcproject.org) for more information.

## Invite Role Models.

Role models, whether they are STEM professionals or college students, are busy people. Your invitation should make a compelling case for participating in your outreach program. Be sure to explain how role models are the “secret ingredient” to making an event meaningful for girls.

### Include in your invitation:

- **Testimonials** from girls and role models from past events.
- **Research** on the importance of role models.
- The **time commitment and logistics** for your event and training.
- The **importance of training** to prepare for the day.



## MINI-GRANTS AND THE POWER OF COLLABORATION

### LOOK TO YOUR COLLABORATIVE FOR MINI-GRANT OPPORTUNITIES TO SUPPORT YOUR WORK WITH ROLE MODELS.

Seven years ago Techbridge and the Alumni Relations Office at the College of Engineering at U.C. Berkeley applied for a mini-grant from the California Girls Collaborative. This grant helped to seed a new partnership through which Techbridge continues to offer training for university students and alumni.

The benefits of collaboration go both ways. Girls discover how engaging engineering can be and what it takes to prepare for a major in engineering. Role models find that they have just as much fun as the girls and leave inspired and reminded of why they chose engineering.

Techbridge and the Alumni Relations Office continue to partner. The Alumni Office helps engage its alumni and students in meaningful interactions and outreach. The program has come full circle. Techbridge girls have gone on to the Engineering program at U.C. Berkeley, and many of these young women come back to Techbridge and volunteer as role models.

# Role Model Training

Role models can make a world of difference to girls. Prepare them well so that they know how to effectively engage girls. Role models may have an exciting career, but if they don't know how to relate to a group of young girls, they won't inspire them. You can convey the information role models need to be successful by leading them through an interactive training highlighting tips and strategies to help them.

We often hear that partners are hesitant to ask for more time from role models, but role models who have been trained report that they are more comfortable and prepared to interact with girls and are more likely to continue to do outreach. Even role models who have experience working with kids benefit from training.

## Role Models Need to Know:

- How to interact with girls and inspire them in STEM careers.
- What kinds of messages inspire girls in STEM.
- What works and what doesn't in leading a hands-on activity.
- How to share personal stories along with inspirations and struggles.
- What group management strategies best support girls.

## Formats for Training:

- If your event is at a corporate workplace, a one-hour lunchtime training at the work site works well.
- For an all-day outreach event at a university campus, local school, or Girl Scout council, a half-day weekend training gives role models the chance to practice the hands-on activities and review techniques for working with girls.
- Techbridge online training is an option for role models who do not have the flexibility or time to attend an in-person training or who would like a refresher before their event. Visit [techbridgegirls.org](http://techbridgegirls.org) for more information.



## ROLE MODEL TRAININGS DO MAKE A DIFFERENCE!

Ellyn Savard, a Connecticut Girls Collaborative member, has seen the advantages of training firsthand. Prior to a field trip to a corporate partner site, Ellyn trained and provided resources to the role models. During the field trip, it was clear to her which role models had read through and utilized the resources. Role models who prepared ahead of time had considerably more meaningful interactions with the girls. This experience has led Ellyn to have all future role models commit to training to enhance their work with girls.



*"The way engineers help people is just amazing and to learn about someone in that job is more amazing."*

*– A 5th grade girl*

# Ingredients for Role Model Training

In your training, we recommend you run through the elements of a typical role model outreach event. This includes an icebreaker, introduction, hands-on activity, and reflection. Although icebreakers may seem like simple fun activities, we *strongly* encourage you to do an icebreaker and hands-on activity with your role models so they have firsthand experience and learn where to anticipate challenges.

## 1

### Welcome and Introduction. 5 MIN.

To begin your training, share your background, the goals of your organization, and your work with girls. Did you have a role model who made a difference in your life? Invite participants to introduce themselves so that everyone gets to know who's in the room. If you have a large group, you may want role models to introduce themselves at their tables.

#### During your welcome:

- Be clear about the goals of the training.
- Make participants aware that they will be active during the training.
- Create or state the ground rules for the group.

## 2

### Icebreaker. 10 MIN.

Start the training with an icebreaker. Select an icebreaker that role models can use with girls. Remind role models why it is important to start with icebreakers when working with girls. We sometimes hear that role models and trainers want to leave out icebreakers in the interest of time, but they are more than just fun and set the stage for a role model's success.

#### Icebreakers help role models:

- Make girls feel more comfortable with one another and with the role models.
- Establish an interactive mood from the start.
- Introduce new scientific topics, vocabulary, and careers.
- Gauge girls' background knowledge on a particular topic.

*"I learned how to reach out to girls who are often missed in my community. I was also given tools for working with mentors and role models."*

— Member of Tennessee's Girls Collaborative Project, GRITS



### 3

#### **Make the Case.** 5 MIN.

Share experiences and research about why it is important to get more girls interested in STEM. The NGCP's website keeps updated statistics on the state of girls and women in STEM. Sharing stories about the impact that STEM can have for girls can be very compelling and let role models know they are part of the solution. The following data is from the Girl Scout Research Institute's 2012 *Generation STEM*<sup>iv</sup> report.

##### **The good news and the not so good...**

- 74% of high school girls across the country are interested in the fields and subjects of STEM.
- Only 36% of girls with an interest in STEM have participated in STEM activities outside of school. Only 13% of girls with little stated interest in STEM have participated in STEM activities outside of school.
- 57% of those surveyed say that girls their age don't consider a career in STEM.
- African American and Latina girls have a high degree of interest in STEM, high confidence, and a strong work ethic, but few supports and less exposure to STEM.

### 4

#### **Role Model Introduction.** 15 MIN.

Discuss how role models can make connections with girls by sharing information about themselves, their jobs, and their lives outside work. Role models can help combat stereotypes by highlighting the creative and collaborative nature of STEM - areas of interest to girls.<sup>viii</sup> Some role models like to share a PowerPoint presentation to show and tell their story. PowerPoint presentations should be brief and visually appealing to the girls. Encourage role models to use lots of pictures and very little text.

It may be hard for some role models to describe what they do to a group of young girls. It's helpful for role models to practice their introductions and share feedback with one another.

##### **During their introductions, encourage role models to:**

- Be dynamic! Enthusiasm and passion for work are contagious and help engage and inspire girls.
- Make it personal. Share stories about family and interests outside of work.
- Use kid-friendly language and avoid industry jargon.
- Keep introductions short and include artifacts and pictures.
- Explain how engineers and scientists help change the world.
- Relate projects and work to the girls' knowledge and experiences.
- Share their academic and career path.
- Highlight the triumphs and challenges experienced in their studies and career.

# 5

## Strategies for Working Effectively with Girls. 15 MIN.

Supporting girls' exploration and discoveries helps develop their interests and curiosity. Through questions and feedback role models can help foster a growth mindset, where girls learn that through effort and determination they will grow and succeed.

**During the hands-on activity, encourage role models to:**

- Ask open-ended questions.
- Promote inquiry by encouraging girls to problem-solve and think critically.
- Give positive and specific feedback.
- Make connections to careers and real-world issues.

### GROWTH MINDSET

RESEARCH SHOWS THAT INTELLIGENCE CAN BE DEVELOPED WITH EFFORT.<sup>ix</sup>

Role models can teach girls that the brain is like a muscle that gets stronger and works better the more it is exercised. By supporting this kind of growth mindset, role models can encourage girls to want to learn new and challenging things. In the face of challenges, children with a *growth mindset* are more likely to be persistent and successful. Here are some tips for reinforcing this mindset:

- Highlight the importance of learning from mistakes by sharing personal experiences.
- Offer positive reinforcement when a girl stretches beyond her comfort zone and takes on challenges rather than play it safe.
- Highlight the fun of challenges.



## The Importance of Questions

Encourage role models to ask open-ended questions that have more than one possible answer. Open-ended questions help girls solve a problem or think through the challenge by stretching their reasoning and creativity. In this **inquiry-based** atmosphere, girls will feel inspired to ask their own questions. It's all part of the scientific process!

### SAMPLE QUESTIONS:

- Can you explain your design to me? How did you come up with it?
- I notice that you're ... Can you tell me more about that?
- What changes would you recommend to improve your design?
- What would happen if...?
- Did you get the result you were expecting? Why or why not?

## The Power of Feedback

Feedback can motivate and instill confidence in girls. Timely feedback helps them understand what they're doing while they are doing it - so don't wait until the closing discussion. Verbal feedback for younger groups can often be misunderstood, so encourage role models to consider a demonstration to clarify the feedback. For example, younger girls may understand how triangular-shaped elements can be used to strengthen a structure through a demonstration.

### GIVE FEEDBACK THAT:

- Is specific, provides guidance, and reflects back what the girls are doing and how they can meet the challenge. Don't just say, "You're so smart! I know you can succeed." Instead, praise how they are trying different approaches or designs to complete the activity.
- Allows a little "think time" to give girls an opportunity to respond to feedback.
- Does not compare the work of one girl with another's.
- Helps girls think about their process and shows that their effort and persistence will make a difference.

### SAMPLE SENTENCE STARTERS:

- Did you get the result you were expecting? Why or why not?
- I really like how you tried different ideas...
- I saw you were using a lot of effort when...
- This is really interesting because...

## The Value of Crowd Control

Role models may be experts in their fields, but may not have the skills or experience to manage a group of girls. To prepare the role models for success, it is helpful to share strategies for interacting with girls.

### MANAGEMENT TIPS TO SHARE:

- Get girls' attention before talking or transitioning.
- Invite girls to rephrase directions or questions to make sure they're understood.
- Move around the room and increase proximity to restless girls.
- Send a silent signal like hands-on head to help girls quiet down during instructions.
- Give a quiet reminder if girls are getting too loud.
- Invite active engagement with questions (instead of just talking on and on).
- Make girls aware of the time limits and remind them throughout the activity (e.g., "You have five minutes before cleanup.").
- Offer a choice. If some girls have a difficult time paying attention, provide an alternative activity for them if possible. There may be something these girls can do quietly and independently like journaling or creating a picture or diagram of the activity.
- Use humor. Everyone is there to learn and have fun so encourage role models to enjoy their time with the girls.

## 6

### Hands-on Activity. 50 MIN.

Lead role models through a hands-on activity that illustrates the type of activity that they will lead. This gives them a chance to practice the activity and anticipate what might be challenging for the girls.

#### Invite them to consider the following questions:

- What will you do if the activity doesn't work?
- What can the girls learn from this experience?

You can highlight hands-off facilitation by modeling strategies while practicing the activity. By taking a hands-off approach the role models are encouraged to help the girls through questioning and discussion. Role models can reflect on what approaches work and don't work to engage girls during a debrief of the activity.

#### Introduce a hands-on activity that allows girls to:

- Make connections to real-world issues and to topics the girls may be learning at school.
- Make connections to the role model's career.
- Experience the practices of science and engineering like recording data and designing prototypes.
- Be creative and allow them to use their imagination in the design.
- Collaborate and work in teams.

## 7

### Reflection. 15 MIN.

To close your training, lead role models through a debrief of the activity, modeling for them the importance of inviting girls to share what they learned and make real-world connections. Reflection makes girls more aware of their own learning and enhances their ability to process content or problems by relating their experience to their prior knowledge.

#### When reflecting on the hands-on activity, encourage the role models to:

- Discuss how girls handled challenges.
- Help girls understand how the activity relates to real-world situations.
- Relate science, technology, and engineering careers to the activity.
- Discuss how girls might apply what they learned in and outside of school.
- Talk about the challenges and benefits of collaboration.
- Think about how girls might continue to explore the concepts and ideas raised through the hands-on activity.

## 8

### Training Evaluation. 5 MIN.

Gather information from participants about the training. Be sure to ask not only about the depth and amount of the content, but about logistical issues as well. Scheduling and timing play an important role in hosting a training. This feedback will help you understand what worked well for your participants and how you can improve. You will also learn what kind of follow up and support your role models will need.

- Find time to follow up with the participants after the event to gauge where they might need additional support.





*"It is critically important for girls to see women in STEM fields and to have the opportunity to interact with or shadow them. A few precious minutes encouraging an impressionable girl will pay dividends for a lifetime, and may lead them to a career in a STEM field. Be a part of someone's future."*

*-Rear Admiral C.J., US Navy,  
Commander Fleet Readiness Centers*

# Preparing for an Event

It's important to prepare role models and girls before the big day to help them be successful.

## 1

### Prepare Girls for Role Model Visit.

Engaged girls are key to successful experience. When girls participate and ask thoughtful questions, they learn more and the role models feel that their experience and expertise are appreciated.

#### Before the visit:

- Share role model bios with girls. Highlight any connections between the role models and the girls. This might mean identifying similar interests or hobbies, siblings, pets, or the neighborhood where they grew up.
- Familiarize girls with role models' careers. Provide information about the company they work for or the school they attend.
- Share news clips or articles about role models and the projects they have worked on. Better yet, share a video of the role model in action. This will help the girls see the impact of the role model's profession.
- Be sure to encourage all girls to participate. Invite girls to write their questions in advance on note cards or post-its. If the group is small enough the expectation can be set that every girl will ask a question. It's helpful to remind girls that there are no "bad" questions. Active

### Encourage Curiosity!

Encourage girls to think of questions that ask for a unique response or a story from role models. These responses are not answers to questions that girls can find on their own. Invite girls to ask questions about role models' job, career path, and work-life balance. You can prepare handouts with sample questions to help girls get started.

Exchanging personal stories and photos in advance helps girls and role models. For the girls, it's fun to learn that a role model has a pet dog or shares the same hobbies. This information helps girls connect with role models and ask more thoughtful questions. For role models, knowing personal information about girls helps them identify topics to discuss and areas to focus their academic guidance.

### SAMPLE QUESTIONS FOR GIRLS TO ASK ROLE MODELS...

- What projects have you found rewarding? Why?
- What project did you consider difficult? What did you learn from it?
- How are you creative in your work?
- What is the salary range in your field?
- What did you learn in (elementary, middle, high) school that is useful in your career?
- What keeps you motivated and excited about your job?
- Looking back, do you wish you could have done something differently?
- How does your work impact the world?

## 2

## Checking in Prior to the Event.

Connect with role models before the event to review plans and address any last minute questions. During check-ins:

- Thank the role models for their participation and remind them how important they are in inspiring girls in STEM.
- Review the goals for the day. Reinforce the importance of being role models which means more than leading activities.
- Preview the role models' introductory remarks and remind them about positive messaging about STEM. If they are planning to share a PowerPoint be sure to review in advance to ensure it is visually appealing to the girls and not too long.
- Provide logistics and a detailed schedule of the event, including directions, parking, and meals. Make arrangements to meet before the event begins.
- Devise a plan for helping role models stay on track and on schedule. Agree upon a signal when it's time to move along and when it's time for closing comments and reflections so that they don't run out of time.
- Let the role models know who will assist them throughout the day.
- Share the attendance numbers and the set-up of the room. Discuss how best to arrange groups for activities.
- Review audio/visual and technology needs.
- Exchange contact information for the event day.
- Invite the role models to ask questions and share any concerns they have.

### Meet: Heather Fleming PRODUCT DESIGNER



Product designers have talent for design. They combine art, science, and technology to make the products we use at home and school and play. They often use engineering to help create a product that people want to use and can afford to buy. Product designers have good "people skills" and spend time listening to what people want and watching how they use products.

As a product designer you might make a car seat for pets or a toothbrush that kids like to use. Or you might design an electronic toy that lets girls exchange notes.

#### HEATHER'S BIOGRAPHY:

I grew up in a small town in New Mexico with lots of animals and a sister to keep me company in the country.

I started Catapult Design where I do product design for the developing world. The best part of my job is traveling and experiencing new cultures. I also like that the work I do makes a difference in people's lives. I volunteer with Engineers Without Borders and made a wind turbine for Guatemala.

#### HEATHER'S HOBBIES:

I love animals. I have a turtle, frog, and cat. I like spending time outdoors, taking long walks with my iPod.

I also like spending my free time sewing, cartooning, visiting bookstores, and going to movies in the middle of the day.

# Follow-up

It's important to follow up with role models to thank them for their work and share feedback and evaluation results. This also provides the opportunity to get feedback from role models and discuss future opportunities.

## 1

### Thanking Role Models.

A well-crafted thank you to role models can set the stage for future partnerships. Role models are moved by thank you notes, particularly those that describe the impact they make through their visits.

- Reinforce the importance of role models in helping girls understand what it's like to be an engineer, computer scientist, or physicist.
- Include quotes from the girls. Role models love to hear how they've made an impact.
- Send a photo as a lasting reminder of their positive experience with girls.
- If they were effective role models, invite them to future events.

Encourage girls to thank role models and inspire them to get creative. Your group may need guidance on how to write an expressive thank you note. You can teach them the art of showing appreciation.

## 2

### Giving Recognition.

We encourage you to reach out to supervisors or faculty advisors and publicly recognize role models through their workplace or school. Not everyone understands the value of outreach. By writing a letter, sending an email, or making a call, you can help inform a manager or supervisor of the value of their employee's or student's participation.

Does your Collaborative offer an award for volunteerism? Does a corporate partner or university department recognize volunteers? Try to find ways to publicly acknowledge role models who really do make a difference through their outreach. You can highlight their efforts through profiles in your organization's newsletter or the media coverage of your event. Not only will these efforts keep role models coming back, but they will encourage others to join in.

- A quick and easy way to thank your role model is to write a thank you or recommendation through a social media site such as LinkedIn or Facebook.

## 3

### Evaluating Outreach.

It's good practice to assess and adapt activities and events so that they are effective. What's more, the information you collect allows you to better communicate your program's impact to others, which can help attract and retain support from funders.

#### There are several ways to evaluate events.

- Ask girls to complete a survey. On the Techbridge website you can find sample surveys that collect data on how girls' interest and knowledge of STEM careers are impacted by role models.
- Invite role models to complete a survey to find out how the experience has impacted them and how the training impacted their work with the girls.
- Evaluation is a two-way street so be sure to give your partners and role models feedback on the event. Quality feedback makes for lasting partnerships.



*"It is only through collaboration that we can reach beyond our own network and engage role models who best fit our program or the interests and needs of the participants. And it's that same collaboration that allows us to better understand the interests and the needs of the role models, thus enabling us to better support them and engage them now and well into the future."*

*Tricia Berry, Director, Texas Girls Collaborative Project*

## 4

### Tracking Role Models and Partner Organizations.

Keep a record of contacts, employees, and students who are interested in outreach and write-ups on programs or fieldtrips. With detailed records of events and role models you are better able to match events and role models for an impactful outreach event. Databases may include:

- Notes about role models including schooling, professional background, gender, and ethnicity
- Notes about outreach visits to remember for future planning
- Contact information
- Training history

#### The Power of Collaboration

Introducing a girl to a role model can have a powerful impact on her life. By introducing role models and engaging in STEM activities, you can excite girls' curiosity and give them a glimpse of what their futures can hold. Creating these opportunities takes careful planning and support. We encourage you to utilize the partnerships and resources of your Collaborative to recruit and train role models to bring them to STEM programs for girls. We hope that this guide will help you prepare and support role models so that together you can inspire the girls in your community to change the world through STEM.

#### Recommended Readings for Role Models

- *Generation STEM. What Girls Say about Science, Technology, Engineering, and Math.* A Report from the Girl Scout Research Institute.  
[http://www.girlscouts.org/research/publications/stem/generation\\_stem\\_what\\_girls\\_say.asp](http://www.girlscouts.org/research/publications/stem/generation_stem_what_girls_say.asp)
- *Changing the Conversation* website by the National Academy of Engineering  
[engineeringmessages.org](http://engineeringmessages.org)
- *Why So Few? Women in Science, Technology, Engineering, and Mathematics*  
[aauw.org/learn/research/upload/whysofew\\_execsummary.pdf](http://aauw.org/learn/research/upload/whysofew_execsummary.pdf)
- *SciGirls Role Model Strategies Tip Sheet*  
<http://scigirlsconnect.org/page/role-models>

# Programs-in-a-Box

Techbridge's programs-in-a-box inspire girls in science and engineering.



## Make It Green

Construct a green studio from start to finish – from brainstorming an idea, to creating a floor plan, to building “green.”



## Design Time

Work through the engineering design process and get your creative juices flowing with four playful design scenarios.



## Power It Up

Master electricity and circuits through a series of hands-on investigations, with the option to use a soldering iron.



## Thrill Builders

Explore simple machines all around you in a crazy carnival of your own creation.



## Engineers to the Rescue

Apply engineering know-how, problem-solving skills, and design savvy to navigate your way out of a camping trip gone wrong.



## What are Programs-in-a-Box?

The Techbridge programs-in-a-box offer engaging hands-on projects and career exploration activities for girls. They are available in easy-to-use kits that introduce girls to engineering and science concepts and highlight the Engineering Design Process. Through the projects, girls are invited to brainstorm, design, build, test, and re-design. Our project boxes include all the materials you need for your outreach event. With support from the Noyce Foundation, the Gordon and Betty Moore Foundation, and the American Honda Foundation, the programs-in-a-box were designed to bring Techbridge projects to girls across the country.

For more information please contact [info@techbridgegirls.org](mailto:info@techbridgegirls.org) or 510.777.9170.



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