



Get Involved ... Make a Difference

A Guide for Classroom Visits and Field Trips for K-12 Students

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About Techbridge

Techbridge was launched in 2000 by Chabot Space & Science Center in Oakland, California to inspire young girls in technology, engineering, and science—fields where females have been underrepresented. In after-school and summer programs, Techbridge offers girls hands-on experiences tinkering with technology, science, and engineering projects such as design challenges, electronics and soldering kits, and solar-powered LEGO cars. Techbridge also works with corporate partners like Google, Carollo Engineers, and Intel to host classroom visits and field trips to worksites. The hands-on projects along with role models and field trips have been successful in inspiring girls in technology, science, and engineering. Seeing the exciting results of Techbridge, we hope that many more professionals and organizations can benefit from the lessons we learned. To learn more about Techbridge, visit www.techbridgegirls.org. While the mission of Techbridge focuses on girls, this resource guide offers practical suggestions for outreach to girls and boys.

“Just because you’re 12 or 13 doesn’t mean you can’t be an inventor. Stir your curiosity and creativity.”

—*Role model,
patent attorney*



About Google

Google’s innovative search technologies connect millions of people around the world with information every day. Founded in 1998 by Stanford Ph.D. students Larry Page and Sergey Brin, Google today is a top web property in all major global markets. Google’s targeted advertising program, which is the largest and fastest growing in the industry, provides businesses of all sizes with measurable results, while enhancing the overall web experience for users. Google is headquartered in Silicon Valley with offices throughout the Americas, Europe, and Asia. As a global company, Google believes that the diversity of perspectives, ideas, and cultures leads to the creation of better products and services. As part of our ongoing commitment to excellence through diversity in the technology industry, Google has created a K-12 program to help encourage girls and youth from historically underrepresented minorities to pursue studies in math, science, and engineering, and to show them how this education can lead to the creation of great products they know and love. For more information about Google, visit www.google.com/jobs.

Introduction

What is it about the job that you most love?

Designing a high rise that is environmentally friendly... creating technology that makes it easier to connect with family and friends...working on a treatment for cystic fibrosis? We often hear from role models about the **amazing jobs** they have working in science, technology, and engineering.

Despite the personal and professional rewards of careers in technology and science, many youth, especially girls, describe these fields as boring, nerdy, and difficult. With its many specialties, engineering can seem abstract or unappealing. We often hear how girls want to **make the world a better place** but they don't see how their interests connect with technology, science or engineering. We all need to do a better job of **communicating what technology, science, and**

engineering have to offer.

Having worked with corporate partners and role models, Techbridge has learned valuable lessons for planning and hosting **successful outreach programs**. In this guide, we share some practical tips and suggestions as well as profile successful case studies in outreach to K-12 students. This guide can be used for classroom visits by role models, field trips by students to your workplace, job shadow programs, or other outreach activities.



“I have gotten so much satisfaction through being involved with this program.”

—Role model,
mechanical engineer

What Does it Mean to Be a Role Model?

“Not only does outreach provide me a means to affect positively the journey of others, but it gives me a warm, fuzzy feeling to know that I can make a difference in a young girl’s life.”

—Role model,
NASA engineer

Think you are too busy to be a role model? Think you don’t have what it takes to inspire students? Think again.

We understand that professionals are busy juggling work and family responsibilities. You don’t need to make a large commitment of time to make a significant impact. We invite professionals to commit to one or two outreach efforts a year. A visit to an after-school program or help with planning a field trip can fit into anyone’s work schedule, and can make all the difference for youth in your community.

Why Are Role Models Important?

Hands-on projects can spark an interest in science, technology, or engineering. But on their own they may not lead to a career interest in these fields.

Role models are the best ambassadors for communicating information about the wide range of careers that are available. Role models can inspire students about their work and help them make informed decisions about their future. As a role model, you can:

- dispel stereotypes such as pencil pocket protectors, solitary work, grueling hours
- expand options including offering a real glimpse inside a variety of careers
- show the interesting and useful applications for technology, science, and engineering
- encourage students to choose a career path like yours

Why Should I Be A Role Model?

The benefits of getting involved go two ways. While students benefit from your insight and experience, we have also heard from role models how much they have personally gained from volunteering. Some of these rewards include:

- reenergizes and reminds you why you chose your job
- feels good to connect with youth and give back to the community
- provides an opportunity to work with others in your organization
- offers a chance to develop leadership skills

How Do I Become A Role Model?

If you don’t already have a contact in your community where you can volunteer, we recommend that you:

- Check out volunteer activities your company already participates in
- Start your own outreach program at your organization and coordinate with your community outreach or public affairs office
- Look for professional associations that do outreach to students, such as Society of Women Engineers, Association of Computing Machinery, and Association for Women in Science
- Find other role models at your organization to partner with – a team approach makes it more fun and allows you to share the planning responsibilities
- Participate in a K-12 outreach program such as Discover “E” that is an initiative for National Engineers Week. Such programs offer resources and tips to help you prepare for a successful experience.
- Seek after-school programs in your community or organizations such as Girl Scouts, Girls Inc., or Boys & Girls Clubs that offer technology and science programs for students



A Recipe For Success

The idea of K-12 outreach may sound appealing, but planning and implementing a successful classroom visit or field trip might seem daunting.

It can be intimidating standing before a group of middle school students. How do you effectively engage students' interests? What does it take to make a real impact? Knowing how to lead an activity for a roomful of sixth graders isn't something you typically learn in college or on the job.

Interactions with role models require the right combination of career guidance and social engagement. The key is to be personal and passionate, communicating how your work matters. You can engage and inspire students through a hands-on activity that offers a snapshot of your work. You can also fill an important need by giving students practical guidance to help them take the steps needed to prepare for a career like yours.

Like a business meeting, set an agenda and schedule that is fast-paced and holds students' interest. For classroom visits and field trips we offer this formula:

- Begin with an **icebreaker** to warm up and set the tone—interactive and fun. This can be as simple as introducing yourself by name and sharing an interesting fact or playing “Truth, Truth, Lie.”
- Share a **personal story**. Students are eager to hear about your dreams as a child, a humorous anecdote about when you were their age, or how you dealt with challenges along the way. Students need to connect to you in order to connect to your career.
- Jump into a **hands-on** activity. This helps keep students engaged and offers a snapshot of your work.
- Before you know it, your visit will be almost over. Make time for any **final questions** and ask for input. Find out what the students liked and how can you improve next time.

“It is one thing to talk about engineering or technology, it is quite another to meet engineers (particularly women engineers) and learn about what they do. It is invaluable. I just wish there was more of this available to more young people.”

—Parent

Recipe for Success

- ✓ Be Personal and Passionate
- ✓ Make it Interactive with a Hands-on Activity
- ✓ Explain Why Your Work Matters
- ✓ Fill a Gap with Academic and Career Guidance



Be Personal and Passionate

Role model visits require a blend of career guidance and social engagement. The key to a successful visit is to be personal and passionate.

Take time to think about what you most like about your career. Not every job offers such professional and personal rewards. Don't be afraid to gush about why you love to go to work. When you communicate your passion for your work, you will inspire students.

During your visit you can also dispel stereotypes that students might have about careers in technology and engineering. Talk about how your work is not the only thing in your life. Talk about your hobbies, family, and friends. Let students know that your job leaves room for other interests that help define who you are as a person.

Meet Jill Fuss

"I never liked science classes in high school. It was only when I really got to do science during my summers in college that I wanted to be a scientist." For students who haven't had a teacher to inspire them, science may not be part of their career plan. **Jill Fuss** shows students that science outside of the classroom can be a

different experience. It was the chance to engage in real scientific work that captured Jill's interest in studying environmental science. While she was too impatient to wait for things to happen in the forest, Jill learned that the fast-paced world of laboratory science holds her interest.

Jill's Research

As a structural biologist at the **Lawrence Berkeley National Laboratory**, Jill gets to see and learn new things that other people cannot even imagine. Her current project is looking at the genetic code of ocean worms and its similarities with human DNA. These worms might have the answer to finding a cure for skin cancer and other human diseases. Jill talks about her work in terms that students can understand. With pictures and props like an E. coli plush toy, she is able to hold students' interest. Jill explains to students how her research is important for understanding how normal cells turn into cancer cells. Jill's research especially resonated with students whose lives have been personally impacted by cancer.

Jill's Jetta

Jill's visits with our students always seem to end in the parking lot, chatting around her car. Even though she decided to do biology for work, Jill didn't give up her interest in the environment. She likes supporting the development of alternative energy technologies by driving a car that runs on vegetable oil. Jill brings her Jetta and shows students how her diesel engine uses recycled vegetable oil for fuel. Inspired by Jill, one of our students recently got her driver's license and wants to make her first car into a veggie vehicle just like Jill's Jetta. Jill has many other interests that keep her life interesting like skiing, hiking, knitting, doing triathlons, and spending time with her husband and two dogs.

Jill shows by her work and her lifestyle that science matters. She has a career that may someday find a cure or treatment for cancer. She drives a car that helps reduce pollution. She has inspired our girls to consider science as a career to make the world a better place.

“Follow your dreams and don't let anyone tell you that you can't.”

—Role model



Make it Fun and Interactive

What makes for a worthwhile visit with a role model?

Here is how one of our students responded, *“When we can experience it somehow... having a connection to their career, doing something hands-on.”* We recommend leading an activity that is interactive and will offer a snapshot of your work.

When planning for the hands-on activity here are some tips for keeping students engaged:

- **Keep lectures and PowerPoints short**
– youth have short attention spans
- **Mix it up** with stations where students work on activities and meet different role models
- **Conduct a tour** so that students get to see different work settings

Clorox

Techbridge students took a field trip to the **Clorox** offices in Pleasanton, CA and got to see how the company develops and tests its wide array of household products. You might ask how are you going to get students interested in soap and cat litter? The answer is through fun hands-on activities.

Clorox hosted hands-on stations that introduced the girls to science and brought to life curriculum they learned from textbooks. At four stations, the girls learned about cryogenics, super saturation, glow germs, and electricity. These activities gave the girls an introduction to how Clorox uses science in the development of its products. The hands-on approach to these activities can often spark an interest in science.

After lunch, in groups of four, the students toured the Clorox technical facilities and continued to learn how science is used at Clorox. The groups toured a research room with dozens of toilets, a shake platform that tests packaging, and an electron microscope that magnifies specimens. How many middle school students get to check out real life tools for science and technology like these?

IDEO

If you are planning to show students what you do at work through a tour, then you will want to begin with a hands-on icebreaker. Here's one way to make for a balance of show-and-tell and hands-on experience for students. At **IDEO**, a design and innovation firm in Palo Alto, our guide introduced herself as a professional ping-pong champion in need of a trophy for her prize ball. She hired the Techbridge girls to design a tower that would hold her trophy ball. Like most design projects the girls had to work within a tight budget that only allowed for two materials: raw spaghetti and three feet of masking tape. In teams of four, the girls designed towers to meet the requirements of the challenge.

After the icebreaker, the guide introduced her true identity: a project manager with an engineering degree. This activity provided a glimpse into a field that many had never known existed. The hands-on assignment also made it easier for students to pay attention on the next stop—a tour where they were introduced to design projects like a fat-handled kids' toothbrush for Oral B and the Polaroid iZone instant camera.



“The rule of our lab is to believe you can change the world.”

—Clorox

This message is one that the Techbridge program tries to inspire in girls—that they can change the world and that technology and science can help them do so.

Explain Why Your Work Matters

“It would be so fun if I could make a difference in the world...to be able to make a difference in something.”

—Student

Girls place a high value on meaningful work that makes the world a better place. Role models can show the interesting and useful applications of science and engineering. You want to communicate why your work is important, as many girls do not make the connection between engineering or technology with their interest in helping people and the environment.

Meet Kitty de Jong

Kitty de Jong is a medical researcher at **Children’s Hospital Oakland Research Institute**. When she visits our programs, Kitty makes sure to show how she uses science in her job and why her job is important to helping people.

Kitty begins her visit by recounting how her interest in science stemmed from a paper she wrote as a young girl in Holland. Thanks to her mother, Kitty still has the paper she wrote about Louis Pasteur and she brings it to show our students. While doing research on Pasteur, Kitty discovered a passion for discovering what makes people sick.

Activity

Kitty brings along an assortment of materials that help her show-and-tell her research on sickle cell anemia in terms that middle school students can understand. For example,

- Blood cells made of Play Dough help students understand the cellular makeup of blood.
- With a centrifuge that spins blood, Kitty demonstrates the separation of red and white blood cells.
- With bones from her butcher shop, Kitty gives students the chance to learn about blood-producing bone marrow.

Kitty invites student participation by first asking the group what they know about blood and anemia. Collectively, the girls usually come up with many right answers, prompting the girls to ask many questions. For girls who were studying biology in science class, meeting Kitty provided the chance to make the connection with a career. For a few girls who had family members with sickle cell anemia, questions about treatments and cures were especially important. Kitty keeps the girls engaged by centering her presentation on the students’ questions instead of presenting her work lecture-style.

Kitty also brings some of her manuscripts for the girls to read, and conveys the importance of good reading and writing skills needed for any profession, including science.



Fill a Gap with Academic and Career Guidance

Every student you meet may not choose a career in engineering or technology, but you can be an important influence on their lives.

A visit with students is an opportunity to share life lessons that will help them in their studies and in whatever career path they follow. Keep in mind that many students are making important academic and career choices with little guidance from adults. Here are 3 ways you can help:

1. Offer students practical tips for right here, right now.

- How did you finance your way through college? For high school students, learning about scholarships, financial aid, and work study is important, especially for students who will be the first in their families to attend college.
- Encourage students to test the waters by finding a summer job or intern position to learn about science and engineering. Too young for a summer job? Encourage younger students to volunteer or enroll in a summer program.
- As a role model, let students know why advanced math and science classes matter.
- Encourage students to get over a fear of public speaking with a debate or speech class.

2. Help students stay in the pipeline.

The road to success isn't without obstacles and each student will face challenges along the way. Not only are talents and skills important for success, but how students deal with difficulties that will affect their life's journey.

- Describe how you overcame problems and found resources to help you.
- Offer tips such as form a study group, find a tutor, ask for help, and don't be afraid to make mistakes. Learning how to persevere and to

How did I get here: Junior High

- I hated junior high
- But I had great math and science teachers
- Continued to play cello
- However, I wasn't a super-stellar engineer braniac...yet.

How did I get here: High School

- I didn't know what I wanted to do in high school
 - I liked math, but I wasn't the math super need
- Architect?
 - I liked being creative and liked drawing
 - But drafting was the only way I could draw

Once I got into college, how did I stay there?

- **PERSISTENCE!**
- Money!
 - Worked part time
 - Internships
 - Scholarships
- Hard work!
 - Long hours of studying
- Have fun!
 - Don't get burned out!

How you can get there: What does it take to be an engineer?

- Excellent communication skills
- Good at math and science (but you don't have to love it)
- Ability to work in a team environment
- Naturally curious
- Be creative!
- Enjoy solving problems
- Enjoy spending time at a computer
- A bachelor of science (BS) degree
- **BE PERSISTENT! DON'T EVER GIVE UP!!!!**

believe in themselves will help them succeed in school and at work.

- Share personal experiences to convey these messages. For a student to know that you also overcame challenges to get to where you are will help them feel more comfortable.

3. Discuss the personal and professional rewards of your career.

- Don't be afraid to talk about starting salaries and the financial rewards of your job. Information like this can help students make informed choices when choosing a field to study.
- Learning about flexible schedules and opportunities to travel can help students understand the rewards associated with a career in technology, science, and engineering.
- Don't be afraid to encourage students to follow your career path. Students are getting messages from their peers and others. Why not encourage them to be an engineer or rocket scientist or researcher that finds the next major medical breakthrough?

“I liked how we talked about career choices and I found that there are more job choices than I thought. I liked that I had someone to talk to because I have been thinking of my future and I wasn't sure where to start.”

—Student

Case Studies for Worksite Visits

“Thank you so much for this opportunity to see how Google works. I learned so much about the different jobs each person does at Google to contribute to the massive website. I learned a great deal from my role models and mentors. They described everything for me very well and were extremely nice. I had so much fun. ☺☺

—Student

There is something about being able to see what you do and where you do it that inspires students.

We have heard from girls how a field trip to a worksite has changed their lives. Recently, a student told us she wants to be a product design engineer after visiting the design firm IDEO two years ago. How many students know what product design entails let alone have it as a career goal?

Just like visits with role models in a classroom, the elements for a successful field trip are the same: personal, interactive, and an opportunity to share academic and career guidance.



Welcome and Introductions

Right from the start the Techbridge girls knew they were in for a special day at **Google**. The day started with an official welcome and introductions from a team of role models. Next, the girls and Google employees played a fun game of Googler Bingo to get to know one another.

| Googler Bingo Find a Googler who... | | | |
|--|--|--|--|
| Served in the Israeli Army | Has lived in 4 states | Has gone on an African safari | Graduated from college in 3 years |
| Likes to read books to their 3 year old | Skipped kindergarten | Born in Germany and grew up in Switzerland | Has a season pass to Disneyland |
| Spent 3 months in Berlin studying German | First language is Spanish | Is an ice-hockey goal tender | Been married twice to the same person |
| Has parents that are both PE teachers and met at summer camp | Had 3 wedding parties in 3 different countries | Has an 8 year old daughter named Julia | Knows how to make cheese fondue from scratch |

Product Tour

The girls moved on to hands-on stations that introduced them to new Google products.

The girls enjoyed navigating through Google Earth, learning to edit photos with Picasa, and setting up personal accounts with Gmail.

Lunch

It wasn't only the Google cafeteria with its great selection of ethnic foods that awed the Techbridge girls but the chance to talk with a role model. With three girls to every role model, the conversations between the girls and role models were relaxed and personal. Not everyone may be able to spend an entire day away from their jobs, but even an hour of your time can impact the lives of students. The role models from Google made a very positive impact on the Techbridge girls, discussing the rewards of a career and offering the girls important lessons. *“Do you want to be important? Do you want to make a difference and be able to help others? You can if you set goals and work hard.”*

Scavenger Hunt

In small groups, led by a Google employee the girls got a tour of the campus. The tour, arranged as The Google Scavenger Hunt, was a great way to see Googlers at work and visit many of the highlights of the campus. These included a rotating globe that shows points of light representing real-time searches, swimming pool, and an “autograph” from Tech Support. The Google campus with its collaborative approach to work captured the imagination of the girls who left with a greater interest in a career in technology.

What made this visit so successful?

The personal touch made this field trip a hit with students. Certainly it is interesting to see the Google campus and products but having time to talk with role models made the visit a success. After the the field trip, the Techbridge girls all expressed strong interest in wanting to know more about programming and software and in wanting to work at Google.



Carollo Engineers

You might think that waste water treatment wouldn't excite girls, but you would be surprised what a successful job shadow program can do. On **Introduce a Girl to Engineering Day**, Techbridge brought a group of girls to **Carollo Engineers**, an engineering firm in Walnut Creek, CA that provides water and wastewater engineering services.

Welcome and Introductions

As an icebreaker, each person grabbed a handful of M&M's and was asked to say something about herself for each M&M taken. Since some of the girls were shy at first, this activity helped them talk about themselves and open a dialogue with the role models.

During the introduction, a team of role models presented a short PowerPoint presentation to provide an overview of Carollo and the various engineering disciplines that work together to design and create water treatment facilities. Engineering with its many branches—civil, mechanical, electrical and biochemical—can be confusing to students. Carollo role models helped explain what each engineering field does and how each plays an important role in solving one problem.

Office Tour and One-on-One Sessions

A personal office tour allowed each girl to see various departments within the company. The drafting department, for example, laid out all their blueprints and a 3-D model of a building they were constructing. Seeing each department produce a show & tell of what role their team plays in the company, the girls got an in-depth glimpse into the different functions of the company.

Following the tour, the girls met one-on-one with four role models who specialize in various aspects of engineering and technology. The engineers talked about how they enjoy using math and science to solve environmental problems and showed the girls the latest technologies in water filtration. Having the opportunity to meet with role models individually made it easier for each girl to open up and ask questions she may not have in a group setting and develop a rapport with the role model.



Just Do It

Students could learn about water treatment from a lecture, but it was a lot more interesting to learn about the process by making a water filter with gravel and sand to remove dirt particles from samples of water. The girls learned how this technique is similar to the water filtration plants that Carollo Engineers build. After the activity, the girls made a presentation of their experience, reinforcing the memory of their day even more.

What made this visit successful?

The entire organization embraced the project, and the passion and personal commitment of role model **Lyn Gomes** drove its success. Carollo Engineers arranged for a training that introduced their engineers to Techbridge, learning about what makes for a successful field trip and most importantly, about our girls. In the weeks before the visit, the role models and girls exchanged photos and personal biographies. For the girls it was fun to learn that one of the role models had a dog named Buddy and a cat named Vicious or that another played professional softball. Getting information on the girls helped role models understand their level of understanding of science so that their hands-on activity was just right. After this job shadow, every girl expressed interest in engineering and in working at Carollo. And, every role model rated the visit a tremendous success, with the desire to host more visits in the future. Through the enthusiastic response of the girls, the role models rediscovered the excitement they felt when they first chose engineering.

“I want to work at a place like Carollo Engineers because it would be a job that I like doing and the people at the office are all friendly, nice and helpful.”

—Student

Case Studies for Classroom Visits

For students who don't know an engineer or scientist, role models are particularly important. During a visit with students you can help students experience what it's like to be an engineer or scientist. Here are highlights of two successful classroom visits.

Software Engineering

Patricia Legaspi, a Test Engineering Manager from **Google**, knows how to share the right balance of personal stories and career information. Before her visit to a classroom, Patricia sent her photo and biography. The girls learned that Patricia grew up in their neighborhood, that her family was originally from Mexico, and that she enjoys playing with her dog, Cookie.

Icebreaker

Patricia started off with an activity that creates a connection with the girls and gets them thinking about how to give precise instructions, which is an important part of Patricia's work. She played a Peanut Butter and Jelly Robot who has forgotten how to make a peanut butter and jelly sandwich and needs instructions. When a student shouted out, "put peanut butter on one side of the bread," Patricia dipped her fingers in the jar of peanut butter and spread her fingers across the bread. The girls quickly learned that they needed to give detailed instructions. Patricia explained that as a test engineering manager, she looks for problems in software. She must give

exact instructions on when and how the software problems occur so that they can be fixed.

Introduction and Personal Story

Patricia spent 10 minutes sharing her personal story. In middle school, Patricia loved playing the game Oregon Trail and

knew that she wanted to work with computers some day. In high school, Patricia did not have plans to attend college but instead planned to obtain a technical career and work in parallel to support her family. Through the guidance of teachers and counselors, she obtained financial aid to support her college education. Hearing stories like this one are inspiring and especially relevant for students who will be the first members of their families to go to college.

Activity

Patricia led the girls through a tour of Google Earth. The girls were amazed when they entered their home address and could see an aerial view of their house and neighborhood. To give the girls a feel for what it is like to be a software test engineer, Patricia gave them an address to type into Google Earth and asked them to find a mistake on the map. The girls noticed that the copyright year was incorrect. On another search, the girls discovered a city listed twice. Patricia explained that her job is to find problems in new software so that they can be fixed. She enjoys working for a company that creates tools to make people's lives easier.

What made this visit successful?

Patricia talked with the Techbridge program coordinator in advance of the visit to find out information about the girls. She learned about the projects the girls were working on and personal information about the girls such as the neighborhoods they live in. Having this information helped Patricia frame her personal story to connect with the girls right from the start. The hands-on activity also hit home with the girls. Being able to see satellite images of their homes and neighborhoods in Google Earth also created a personal experience for each student.



Traffic Engineering

How can you make traffic engineering interesting to seventh graders?

- **Jessica Greig** is a traffic engineer who works with the **San Francisco Department of Parking and Traffic** and helps with school safety programs
- **Megan Smirti** is a graduate student in Transportation Engineering in the Department of Civil and Environmental Engineering at the **University of California, Berkeley**

Many students walk to school. Along the way they pass sidewalks blocked by parked cars and traffic that exceeds the speed limit. Jessica and Megan came up with an activity that used these experiences to introduce students to what traffic engineers do. They designed a “walkability” tour that helped students see safety hazards in their neighborhood in a new light. In the process, they inspired our girls to advocate for public safety.

Icebreaker

Working in teams, the girls brainstormed realistic as well as fanciful modes of transportation: bike, skipping, parasailing, hot air balloon, horse, donkey, cart wheel. This icebreaker gave Jessica and Megan a chance to get to know the girls and to get them talking about the forms of transportation that we use to get around. From the start, their visit was interactive.

PowerPoint Introductions

Jessica and Megan used a PowerPoint presentation to introduce themselves and their work. While many of us use PowerPoint for professional purposes, it can be a challenge to get it right for a young audience. Jessica and Megan remembered the rules for PowerPoint and kept it short and simple, highlighting their work and interests outside of work.

Life’s not all work for Jessica and Megan. Each shared fun facts about her hobbies and travels.

- Jessica loves sports and played softball as a student. She taught in the Peace Corps.
- Megan enjoys running in the Oakland hills.



Hands-on Activity

The assignment—look for what makes it safe or dangerous for pedestrians to walk around your school’s neighborhood. Take digital photos to document your findings.

Jessica and Megan walked around the neighborhood in advance and prepared a checklist to help guide the girls on their walk. Each role model worked with a group of students, helping them see their neighborhood as a real traffic engineer. High curbs, uneven sidewalks, poorly marked crosswalks, and careless drivers were recorded. They showed students how engineers can improve traffic conditions with a traffic circle that slows cars and pedestrian countdown signals. Interactions were informal and students had a chance to ask Megan and Jessica questions.

On the way back, the girls were invited to take a “guided” walk. They took turns with a partner walking with their eyes closed. The girls quickly discovered that uneven paths and cars parked on sidewalks that are minor inconveniences become serious safety risks when you can’t see. This experience gave girls insights into the importance of traffic engineering for persons with disabilities.

What made this visit so successful?

The activity is engaging, yet quite simple. It’s free and can be used again and again with different groups. The team approach also works well. Megan and Jessica are at different points in their career and each brings a different perspective: Megan is at the university and can answer questions about applying to college. Jessica is a new mom and can talk about balancing work and family. This team approach makes it easier and more fun for Megan and Jessica, as well as provides the students with more opportunities to interact and gain different perspectives from the role models.

“It was cool to learn why the [female engineers] got this job, not only because they loved math but because they liked to work with other things and other people... after working with these role models, it inspired me to become one of the engineers.”

—Student



Inspiration

We hope you have been **inspired** to consider becoming a role model and that the ideas in this resource guide will help you have a successful experience. As a role model you can **make a difference** in the future of a student. Your participation can also **help diversify and increase the pipeline** in the fields of technology, science and engineering. Techbridge offers training to help organizations plan and host classroom visits and worksite visits.

Visit www.techbridgegirls.org for more information and resources or contact us at techbridge@chabotspace.org with questions or to let us know how your experience went.

“Confidence in your chosen field comes with time and experience. I struggle to feel confident as I continue to learn new things... You just have to keep going, take one thing at a time, and you'll get there.”

—Role model



“I realized that everyone has obstacles to overcome. [Role model] Lyn inspired me to continue following my dreams in engineering.”

—Student

Our Supporters

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“ I had a great time getting to talk to her [my mentor] about careers and what she shared opened a bigger window of opportunity for me. ”

—Student

“ It made me realize that a lot of women are engineers and that work can be fun. ”

—Student



“ The trip to [Google] was a once in a lifetime opportunity. Techbridge has made me realize that I can do a lot if I put my mind to it. ”

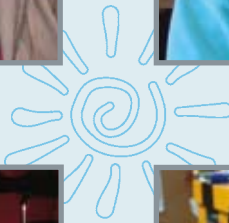
—Student



“ I couldn't have imagined a better set of role models. The women scientists were bright, accomplished, and they told personal stories of being enthusiastic about science since childhood. They obviously treasure and enjoy their careers... I think that every person in that auditorium must have envied them. ”

—Parent





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