

Engineer TM

Dream big. Love what you do.

Presentation Talking Points

(For Counselors)

SLIDE 1—TALKING TO HIGH SCHOOL GIRLS ABOUT ENGINEERING

1. Welcome participants to the *Engineer Your Life* Workshop.
2. Introduce yourself and share why you are involved with *Engineer Your Life* (EYL).
3. Announce length of training and other logistics such as break times and locations for bathrooms, water fountains, and emergency exits.

SLIDE 2—PROJECT OVERVIEW

1. Share with your participants that the overarching goal of the EYL project is to break down stereotypes about engineering and encourage girls to consider it as a career option.
2. The project is aimed at reaching college-bound girls, their parents, counselors, educators, and engineers. EYL has created multiple resources that have been designed to help counselors advise students about engineering.
3. Tell attendees that during the course of this workshop, you'll be showcasing the project resources—Web site, print materials, and ways to use the resources with students.

SLIDE 3—TODAY'S AGENDA

1. Review the agenda with your audience.

SLIDE 4—GROUP DISCUSSION

1. Lead a group discussion around these four questions. Record the answers on flip chart paper that you can post as you'll want to refer back to their answers throughout the workshop.

SLIDE 5—PROJECT HISTORY

1. In 2004, more than 55 engineering organizations formed a coalition to examine the question: "Why are academically prepared girls not enrolling in engineering degree programs?" The hypothesis has always been that when girls began taking math and science in high school at the same rate as boys, they would also begin enrolling in engineering degree programs and a gender balance would be achieved. And yet, by 2004, girls were taking upper level math and science courses in high school at the same rates as boys, but they were not enrolling in engineering degree programs. Why not?

SLIDE 6—RESEARCH

1. In 2004, the EYL project conducted original qualitative consumer research with our target audiences (high school girls, counselors and teachers, and engineers) to determine general attitudes and behaviors about engineering.
2. Before the training, download the full *Extraordinary Women Engineers Final Report* from the *What Girls Think About Engineering* section of the engineeryourlife.org Web site and review. We recommend that you view the video of Kito Robinson presenting this research, also on the Web site.
3. Review with attendees the goals of the research and explain that for the next several minutes you'll be discussing the findings.

SLIDE 7—WHAT DO HIGH SCHOOL GIRLS THINK?

1. Review the bullets listed on the slide.
2. Talk about the meaning of "love" for a young person. For example, while the average adult might love sushi, for a young person, love is associated with strong passion and overwhelming feelings. It is a very strong word.
3. Do the findings listed here match your group's answers to the earlier group discussion?

SLIDE 8—WHAT HIGH SCHOOL GIRLS WANT

1. Review what EYL researchers found out from the girls in the study. Do these match your audience's beliefs about or experiences with high school girls?

SLIDE 9 & 10—WHAT DO COUNSELORS THINK?

1. The next two slides report on counselors' attitudes about and understanding of engineering. Discuss with your audience. Do these align with their own experiences?

SLIDE 11—MEET AN ENGINEER

1. Tell your audience that you are going to show them a video of one of the women engineers featured on the EYL web site. Ask them to compare what they see here with what they have been thinking about engineering.
2. Download a video of your choice from the Web site. We recommend the video of Judy Lee, it does a nice job of outlining the engineering design process. Plus, she gets to bring her dog to work!

SLIDE 12—WHAT ENGINEERS LIKE ABOUT THEIR CAREERS

1. Review the quotes on this slide. Discuss what they saw in the video and what they see here. How does this compare to their answers to questions 3 and 4 from the group discussion?

SLIDE 13—WHAT CAN WE TELL GIRLS ABOUT ENGINEERING?

1. The following messages have been developed and tested to convey that engineering is creative, enjoyable, personally fulfilling, and makes a difference in the lives of others.
2. Tell them that for the rest of the workshop you will share with them resources that they can use to first understand what engineering is themselves and then use to advise girls (and boys) and their parents about engineering.

SLIDE 14—ENGINEERYOURLIFE.ORG OVERVIEW

1. Anchoring the EYL campaign is the www.engineeryourlife.org Web site. This slide outlines the audiences and sets up what type of information visitors will find there.
2. Tell your participants that you'll be reviewing the resources for girls and counselors.

Slide 15—Home page review

1. Slides 15-22 present an overview of the EYL website. While a live internet connection is preferable, we've provided these static slides as a backup and guide for how to go through the site.
2. The site covers four main areas:
 - A. Why Engineering?
Imagine having both the passion to make a difference in the world and the technical know-how to achieve it—that's what engineering is all about. Learn more about engineering and the ten great reasons to become an engineer.
 - B. Meet Inspiring Women
Get a glimpse into the lives of 12 engineers who love what they do. Watch their videos and read their stories.
 - C. Find Your Dream Job
Explore all the jobs related to engineering, whether it's creating cutting-edge animation for Hollywood or protecting the planet by developing state-of-the-art recycling systems.
 - D. Making It Happen
Get advice, tips, and resources on engineering degree programs and hear from some current students.

SLIDE 16—WHY ENGINEERING?

1. Review the list with your participants.
2. When testing this site high school girls told us how much they loved the site, but they still wanted to know "What is an Engineer?" Read your group this definition:

Engineers use their imagination and analytical skills to invent, design, and build things that matter. They are team players with independent minds who ask, "How can we develop a better recycling system to protect the environment, design a school that can withstand an earthquake, or create cutting-edge special effects for the movies?" By dreaming up creative and practical solutions, engineers are changing the world all the time.

SLIDE 17—MEET INSPIRING WOMEN

1. This section features 12 young engineers who are all doing things you may not think of as a typical engineering career. Like Shaundra Daily who developed software that lets high school girls express their emotions or Emily Wren who is using her engineering degree to work in international business. Each profile tells the woman's story, presents photos, and offers other tidbits to give girls a glimpse into what life and work are like for engineers in language that speaks to a girl's dreams of her future.

SLIDE 18—MEET DANIELE LANTAGNE

1. Meet Daniele. She grew up in rural Washington state during a time when logging companies and environmental activists were bitterly contesting issues regarding the fate of endangered wildlife and some of the last pristine, old-growth forests in America. By the time she was a teenager, Daniele was a committed environmentalist, and she knew what she wanted to do with her life: protect the planet. She realized that to really make a difference she needed the technical knowledge that engineering provided: "I would have the skill set to be both an engineer and a scientist, and could also be an environmentalist." She also knew that with a professional degree in environmental engineering came respect: "If I wasn't qualified to do the technical work, I wouldn't be listened to as much."

SLIDE 19—FIND YOUR DREAM JOB

1. In this section, you can explore all the jobs related to engineering, whether it's creating cutting-edge animation for Hollywood or protecting the planet by developing state-of-the-art recycling systems.
2. Depending on how much time you have, you may want to explore a couple of the different areas. In each area you'll learn about the different specialty, types of jobs and projects, salary ranges, and meet more engineers.

SLIDE 20—MAKING IT HAPPEN

1. This section of the site offers tips for how to explore engineering, prepare for college, research different programs, and find scholarship and financial aid information. All of the information in this section is also available in downloadable pdf documents for counselors to use when advising students about engineering.

SLIDE 21—MEET LINDSAY PERRY

1. In the *Making it Happen* section, you will also meet three young women who are currently studying engineering. One is Lindsay Perry, a Senior at UMass Amherst. Right now she is:

"I'm doing a six-month co-op as an industrial engineer at Walt Disney World, learning how Disney forecasts their staffing needs throughout the company by using mathematical models in different software. I'm absolutely blown away by how amazing it is. I'm extremely excited because I became an engineering student so that I could work in the amusement industry, and this co-op is opening doors to that goal."

SLIDE 22—FOR COUNSELORS AND PARENTS

1. Remind your participants that many people who love being engineers have said that they didn't consider engineering or even know what it was until a school counselor or parent suggested it as a career option. This proves the point that sometimes just one adult can make all the difference in helping young people discover their dream jobs.
2. The first part of this section helps counselors get more comfortable and familiar with engineering, much like the majority of this workshop has done.
3. It also provides resources they can use to advise kids and their parents about engineering.
4. The next several slides will walk you through these resources. Remind folks they are also available as downloadable pdfs they can distribute.

SLIDE 23—TAKE ENGINEERING FOR A TEST DRIVE

1. Review these helpful suggestions for kids to explore engineering in practical ways while they're still in high school.

SLIDE 24—RECOMMENDED HIGH SCHOOL COURSEWORK

1. Remind your participants that this list represents the general requirements. Different schools have varying entrance requirements and place emphasis on different aspects.
2. This is also a good opportunity to **dispel** the notion that kids need straight A's in math and science to be accepted into an engineering program.

SLIDE 25—RESEARCHING ENGINEERING SCHOOLS

1. Review the tips for researching different kinds of engineering schools.

SLIDE 26—SCHOLARSHIPS AND FINANCIAL AID

1. This slide and corresponding pdf offer suggestions for how to research and obtain financial assistance.

SLIDE 27—RESOURCES FOR ADVISING STUDENTS

1. This is an opportunity to review all of the resources available.

SLIDE 28—HELP SPREAD THE WORD

1. Help us break down stereotypes about engineering and encourage girls to consider it as a career option by using the Engineer Your Life messages and resources.
2. Tell **everyone** about the project!
3. Hand out posters, brochures, and postcards. Distribute the free *Engineer Your Life* brochures and posters to interested girls and educators. Order copies by emailing Ceit_Zweil@wgbh.org.
4. Train others. We're looking for counselors to host *Engineer Your Life* workshops at local, state, regional conferences. Stipends up to \$750 are available to support your efforts, plus we provide you with a training slide show, talking points, and printable handouts. Contact Ceit_Zweil@wgbh.org if interested.
5. Tell your students to look for the EYL table at a NACAC college fair. The EYL table is an opportunity to provide prospective engineering students, their parents, and educators with information and give them a chance to ask questions in an informal setting.

SLIDE 29—SPECIAL THANKS

Please take a moment to thank the funders who made this project possible.