

~FOR PARENTS~

Recently, your student interacted with Purdue University engineering students as a part of a community outreach program sponsored by the Purdue University Women in Engineering Program (WIEP). We provide this flyer for you to help:

Encourage your sons & daughters to consider becoming ENGINEERS



Visit websites with engineering activities together

- www.engineeryourlife.org
- www.engineergirl.org
- www.braincake.org
- www.discoverengineering.org
- www.tryengineering.org
- www.egfi-k12.org
- www.eweek.org
- www.pbskids.org/designsquad
- Purdue Engineering (www.engineering.purdue.edu/Engr)
- Purdue WIEP (www.engineering.purdue.edu/WIEP)



Read story books about Engineering together (recommended ages shown where known)

- Engineering the ABC's: How engineers shape our world by Patty O' Brien Novak (ages 4+)
- Rocks, Jeans, and Busy Machines: An Engineering Kids Storybook by Alane Rivera (ages 4-8)
- Engineering Elephants by Emily Hunt (ages 4-8)
- Engineering for Every Kid: *Easy Activities* that Make Learning Science Fun by Janice Pratt VanCleave (ages 9-14)
- Cool Engineering Activities for Girls by Heather Schwarz
- The Boy Who Harnessed the Wind by William Kamkwamba (ages 6-8)
- Cool careers in Engineering by Matt Hutson – *includes fun activities*
- Goldie Blox – read-a-long story book with companion *design and build activities* (ages 6+) – available at www.goldieblox.com

Connect their hobbies and interests to engineering fields/careers

- Learn about these connections to different engineering fields on the websites above & also refer to handouts sent home with your daughter/son from Purdue WIEP or download from the WIEP website.
- Share with your son/daughter that an engineering degree is excellent preparation for other professions such as doctors, lawyers, veterinarians and business leaders – just to name a few!
- Note that engineers make a comfortable living – starting out over \$60,000/year on average.
- Help your daughter/son to find a mentor based on their interests – someone in engineering. If you don't know anyone, check with a local university or www.mentornet.net.
- Help your daughter/son to identify some camps, clubs, events or other programs related to their interests and to engineering through the websites above, internet searches or local universities.

Sign up for FREE WIEP events on the Purdue (West Lafayette) campus:

<https://engineering.purdue.edu/WIEP/Programs/K-12/Wiepk-12>

<https://engineering.purdue.edu/WIEP>

puwie@ecn.purdue.edu

765-494-3889

Encouraging your *daughters* to consider being ENGINEERS

~ *girls need extra encouragement & the sooner you start, the better!*

Be aware of girls' motivations for careers & help your daughter see an alignment with engineering.

Girls want to enjoy what they do, have a good working environment, make a difference, receive a good income, and have flexibility in their careers. Too often they hear that engineering is a challenge and uses math and science to solve problems when it is so much more. When doctors talk about their careers, they don't typically start with how difficult medical school is (and how good one has to be in math or science) but rather the joy of saving lives and helping people (which is exactly what engineers do too!). Once your daughter is familiar with the outputs of engineering (e.g., making a difference in so many aspects of human life and for the world at large, as well as the vast career opportunities), then it's time to fill her in on the math and science requirements, now placed in the proper context: "Engineering is using your *creativity* and *working in teams* to solve societal problems (using math and science principles as tools)."

Don't push too hard!!!!

If you push too hard for your daughter to pursue a particular area of interest (and yes this applies to an engineering career too!), she will naturally resist. Listen to your daughter's ideas and explanations and encourage her to ask questions and to seek answers. You might also start by exploring your daughter's hobbies together and connecting these to engineering fields. Also consider that an engineering degree is excellent preparation for other professions such as doctors, lawyers, veterinarians and business leaders.

Watch what you say – Especially don't pass on bad math attitudes

Engineering is not only about math and your daughter does not have to LOVE math to be an engineer. It's just one of the tools in the engineer's box. Show your daughter that math is fun and applicable by making real world connections such as calculating the sale price of clothing when it's ___% off if out shopping together or determining how much paint is required to cover a room if one gallon covers ___ number of square feet.

Help your daughter see that engineering exists all around us

Engineers are behind many necessities and comforts that we encounter in our daily lives. Point out how these items are used around your home, in your community, by various professionals, and in such endeavors as music and sports. Newspapers have articles in business, sports, science and technology sections with products engineers have created. Things that no longer work and now simply occupy space around the house are great teaching tools. Take these items apart together to learn how they work (and, perhaps, determine why they no longer work).

Encourage your daughter to explore engineering summer camp, events, & afterschool programs

Camps are a great way for your daughter to explore engineering while meeting other young women with similar interests as well as to interact with current engineering students and other role models. After-school programs in robotics or math are also available at many locations. The best place for your daughter to check would be her high school or local colleges/universities, including the ***Purdue Women in Engineering Program***.

Take educational vacations

When you travel around the country or even in your local area, there are many sights that will help your family learn about engineering. Places such as Hoover Dam, the National Inventors Hall of Fame, Thomas Edison's Birthplace, Museums of Ceramics or Aeronautics, roller coasters, etc. can all be educational and fun too. For sights in your area or to help you plan a road-trip, visit www.engineeringsights.org.

Encourage your daughter to find a science or engineering mentor

Mentoring is successful because it's a one-on-one learning experience that can be so much more than a technical learning experience. Mentors help students learn approaches for successful careers, networking and listening skills, and help them evaluate solutions to problems. MentorNet (www.mentornet.net) is good place to begin searching for an engineering mentor if you don't know anyone locally.