SWENext Newsletter - K-8

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Register for eCYBERMISSION Competition

If you are a 6-8 grade SWENexter, don’t forget to **register as an eCYBERMISSION participant** by **December 13** for this STEM competition! Find out more about how SWE can **help fund your team through our micro-grant program**.

Civil Engineering

Each month, we are featuring a different type of engineering discipline. This month, it’s Civil Engineering.

Civil Engineering is one of the oldest engineering disciplines, which dates back to the first time someone built a shelter or laid a tree trunk over a stream to get across. If you've traveled on a road, crossed over a bridge, or stepped inside a building, you've used something designed by a Civil Engineer.

Civil Engineering deals with the science of designing, overseeing construction, and maintenance of building structures and facilities. This important work is combined with a desire to make beautiful and environmentally sound structures, which are also functional and cost-effective.

Civil Engineers help keep our lives safe and running smoothly. They work to improve travel and commerce, provide people with safe drinking water and sanitation, and protect communities from earthquakes and floods. If you are interested in exploring a career in Civil Engineering, **here is a video** from the American Society of Civil Engineers, explaining "What Do Civil Engineers Do?"

A Day in the Life of Civil Engineer Emily Munday

Emily Munday is a Civil Engineer who works for Crawford, Murphy, and Tilly. Find out more about how she got to where she is now and how you can #BeThatEngineer on SWE's Blog ***All Together***.

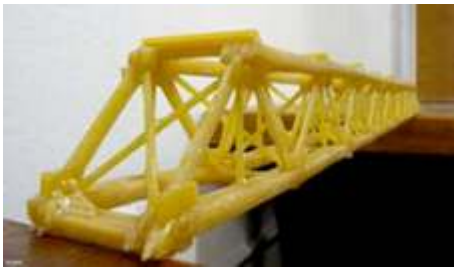
Keeping up With SWENext DesignLab

Are you excited for the upcoming **SWENext DesignLab** season? This is a half-day engineering event that is coming soon to Tulsa, Phoenix, Milwaukee, Portland, OR, and Providence, RI. Keep your eye on this section of the SWENext newsletter each month for SWENext DesignLab updates and announcements.

Register for SWENext DesignLab

- **Registration for SWENext DesignLab in Tulsa, Oklahoma on January 27 is open!**
- **Registration for SWENext DesignLab in Phoenix, Arizona on February 24 is open!**
- **Registration for SWENext DesignLab in Milwaukee, Wisconsin on March 10 is open!**
- **Registration for SWENext DesignLab in Portland, Oregon on April 7 is open!**

SWENext Engineering Challenge With a Chance to Win a Freebie



This month's activity has us thinking like Civil Engineers to design and construct a bridge with uncooked spaghetti as the primary building material. The bridges we travel over on foot and by motor vehicle are built by Civil Engineers, and we couldn't efficiently and safely cross over bodies of water without them.

First, think through what your bridge would be used for. You can build a footbridge for pedestrian/bike traffic or a bridge for motor vehicles.

Next, choose which of the five types of bridges you'd like to design. **Click here to see examples of different bridges.**

- Simple beam bridge
- Arch bridge
- Cantilever bridge
- Cable stayed bridge
- Suspension bridge

Visit this site for more information about this activity.

After your challenge is complete, we encourage you to share a picture of your bridge and tester. Let us know how much weight or how many objects it could support before breaking! Each month, a lucky winner will be selected from the submissions to win SWENext SWAG. Don't miss the chance! All it takes is a few minutes and a great picture. Please email your entry to **swenext@swe.org** by **December 22**.

Shout Out to November's SWENext Engineering Challenge Winner

The lucky winners for last month's challenge are sisters Sami (age 11) and Ava (age 5) from Massachusetts. Sami's favorite features of her design are the three pockets: one for the phone, one for snacks, and one for a wallet. Ava's favorite feature of her mini carrier is the string because it looks cool and you can move it different places.

Great job and congratulations, Ava and Sami! Your awesome freebies are on the way.

Sami's convenient carrier

Ava's convenient carrier

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