

their homes and businesses. Petroleum is not just gasoline for cars! It can also be used to create a range of products from plastics to medicines. We are developing technologies to help us be more efficient and mindful of the environment. Petroleum Engineers play an important role in how society functions and advances.

Do you have any advice for girls who want to be engineers?

Right now, anything is possible. Engineering covers a wide range of disciplines, so there is something for everyone. Study hard and try to learn as much as you can. You may face setbacks, but push through them! With organizations like Society of Women Engineers (SWE) and SWENext, you have resources to help you in your journey. Don't be afraid to reach out to others, and find mentors and peers who will support you to achieve your goals!

Middle School Girls – Apply for a SWENext Community Award!

If you are a 6th, 7th, or 8th grader who lives near Baltimore, St. Louis, Denver, or Bellevue Washington, you can apply for the SWENext Community Awards!

We will be honoring girls who are actively interested in STEM and are out doing something in their community about it, for example participating in STEM competitions like Future City, FIRST, or science fairs; participating in a SWENext club; raising awareness about STEM; doing community service; or mentoring students.

If selected, you will participate in a special program with other SWENexters to learn how to be a leader in STEM and how to prepare for a STEM career. You will also meet and network with women engineers and engineering students.

[Learn more here.](#)

Application deadlines:

Baltimore: Application due January 19, 2019
St. Louis: Application due: February 9, 2019
Denver: Application due: February 23, 2019
Bellevue: Application due March 9, 2019

Still have questions? Send an email to swenext@swe.org.

2019 EngineerGirl Writing Contest

Do you like writing creative stories? If so, you'd be perfect for this contest!

For the first time ever, EngineerGirl is running a writing contest for creative fiction.

To enter the contest, write an original, fictional story in which the main character is a female who uses engineering skills to solve a problem.

There are three basic rules:

1. Your main character must be female.
2. Your main character must use engineering design principles to solve a problem. (She cannot use or rely on magic or supernatural powers.)
3. Your story must be under the word limit for your grade level.

Elementary (grades 3-5): 800 words.
Middle School (grades 6-8): 1100 words.
High School (grades 9-12): 1500 words.

[Learn more here.](#)

We would love it if a SWENexter like you won! Submit your essay via the [Online Submission Form](#) by February 1, 2019 at 11:59pm EST.

SWENext Clubs Corner

From time to time, we will feature a Middle School SWENext Club in the newsletter. This month, we are featuring **Boynton Middle School**.

Boy-oh-Boynton! The SWENext Club at Boynton Middle School was just recently founded in August of 2018 by members of the [Cornell University SWE Section](#) in Ithaca, New York. The 6th-8th girls and boys of the club got their first taste of STEM through a guided [Computer Science Unplugged](#) activity and through coding with [Scratch](#)!



Students also do hands-on activities like building [slingshot rockets](#)! These SWENexters have also heard from guest speakers from Cornell like professors, undergraduate students, and graduate students from the College of Engineering.

Boynton is excited to host members of the [Code Red Robotics](#) FIRST Robotics Competition Team 639 at Ithaca High School (IHS) in March to teach them about FIRST Robotics. Additionally, they will team up with newly established SWENext Club at IHS (also founded by the Cornell SWE Section) to form a mentorship program between the middle schoolers and the high schoolers.

Looks like great things are happening at this new SWENext Club and we can't wait to see what is to come!

Interested in having your SWENext Club highlighted in the monthly SWENext Newsletter? Email Haley, the SWENext Clubs Reporter, at hla37@cornell.edu!

How to Start a SWENext Club

Many of you may be wondering how you can start a SWENext Club in your area, and we want to make that easy for you. Check out [SWENext Clubs 101](#), to learn more.

To register a SWENext Club, you must have a SWE member as an advisor. Your teacher can serve as an advisor by joining SWE for a reduced rate as an [Educator Member](#). Or find your [local SWE section](#) to contact SWE members near you.

Questions about SWENext Clubs? Contact us at swenextclubs@gmail.com.

National Engineers Week – February 17 – 23, 2019

Coming up in February we'll be celebrating National Engineers Week! It is observed by more than 70 engineering, education, and cultural societies, including the Society of Women Engineers (SWE). The purpose of National Engineers Week is to celebrate the contributions to society that engineers make. It is also a time for engineers to emphasize the importance of learning science, technology, engineering, and math (STEM).

The theme of this year's Engineers Week is "**Engineers: Invent Amazing**". Engineers invent things that amaze us in the moment, like a jaw-dropping space launch. But many of us take for granted things that are "everyday amazing," like clean drinking water at the turn of a faucet or the safety features on your parents' car.

So how will you celebrate Engineers Week next month? Start making your plans now. Look for possible events to attend near you. Check [TheConnectory.org](#) for events, and check your local science center for special programming in February.

[Here's the official page for Engineer's Week 2019 so you can learn more!](#)

The world needs more engineers! Help invent the future of amazing.
#BeThatEngineer

SWENext Engineering Challenge with a Chance to Win a Freebie!

Petroleum Engineers design and develop methods to extract oil and gas from deposits below the Earth's surface. They also run processing plants that have different equipment to separate the oil deposits from the Earth into different components based on physical characteristics like boiling point. These components, known as fractions, are used in different ways such as fuel for your car and propane gas for your grill.

As careful as Petroleum Engineers are to not have oil spills, sometimes accidents happen. Oil spills can contaminate ocean water and hurt animals living in or near the water.



This spill, we're challenging you to figure out how to clean up a bird after an oil spill. You'll need the following materials:

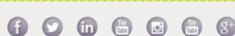
- Craft feathers
- Some or all of these mock "crude oil" products: chocolate syrup, vegetable oil, corn syrup
- Some or all of the following cleaning products: dishwashing liquid, laundry detergent, bubble bath liquid, shampoo, conditioner, vinegar, tonic water
- Water
- Plastic containers, bowls, and/or cups
- Paper towels
- Paper or a computer/phone/tablet to record observations

Once you have all your materials, follow this procedure to set up and execute the experiment!

1. Add 1/3 cup of a mock "crude oil" product and 1 cup of water to a cup or bowl. Mix with a spoon to disperse the "oil."
2. Repeat step 2 in a separate bowl for every "oil" product you have.
3. Submerge a few feathers (1 feather per cleaning product) in each oil mixture and let them soak for at least 1 minute.
4. Choose a cleaning product to try and remove the "oil" product from the feathers. Write down how well the product cleaned off each "oil" product.
5. Repeat step 4 with feathers coated in each "oil" for every cleaning product you are testing.
6. Determine which cleaning product did the best job to save the birds!

If you want to learn more details about this activity, [check out this National Geographic page](#).

Once you're done, send us a picture of your testing and your results. **Please email your entry to swenext@swe.org by February 5. Each month, a lucky winner will be selected from the submissions to win a SWENext freebie.** Don't miss the chance! All it takes is a few minutes.



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