



St. Joan of Arc STEM Family Newsletter

“The main hope of a nation lies in the proper education of its youth.”

— Desiderius Erasmus Roterodamus

November 2020

STEM encourages critical thinkers, entrepreneurs, and change-makers, who will lead the nation at the forefront of discovery. Help us inspire our students to change the world!

Recent Happenings

SJA Citizen Scientists

We have officially tagged and released 30 monarch butterflies at St. Joan of Arc! There were 9 males and 21 females in all. Now that we are experienced in this, we plan to release MANY more next year.

STEM at Home

Hoopla

[Hoopla](#) has hundreds of ebooks, videos, and audiobooks on a range of scientific topics, always available to check out! Featuring educational children’s television such as [Magic School Bus](#), [Nature Cat](#), and [Peg + Cat](#) as well as PBS’ [Nova](#) series for adults, [hoopla](#) really does have science for all ages!

Virtual STEAM: Shine Your Light Challenge

Explore ways that animals show off. Just like a scientist, find inspiration from nature to design your unique way to get noticed. From the HCPL: [Watch Now – Shine Your Light Challenge](#)



A Visit from the Tooth Fairy

I Love My Fangs! by Kelly Leigh Miller. Published by Simon and Schuster and read with permission from the publisher. [Watch Now – A Visit from the Tooth Fairy](#)

Creepy Underwear

Creepy Pair of Underwear by Aaron Reynolds. Pictures by Peter Brown. Published by Simon and Schuster and read with permission from the publisher. [Watch Now – Creepy Underwear](#)

A promotional banner for contactless printing. The background is light blue. The text 'CONTACTLESS PRINTING' is in large, bold, yellow letters. Below it, 'FREE!' is in a yellow circle, followed by 'UP TO 20 BLACK & WHITE PAGES PER DAY!' in blue. At the bottom, it says 'at all Harford County Public Library locations'. On the right is an illustration of a white printer.

Contactless Printing

1. Contactless Printing is available at all library locations, Monday – Friday 10 AM – 5:30 PM, and Saturday 10 AM - 2:30 PM.
2. You can print up to 20 black and white pages free per day. For larger print jobs, please visit your local printing outlet
3. Email your attachment to print@hcplonline.org
4. In the subject line of the email, please type your name and your pick-up branch (Aberdeen, Abingdon, Bel Air, Darlington, Edgewood, Fallston, Hav de Grace, Jarrettsville, Joppa, Norrisville or Whiteford).
5. In the body of the email print a brief description of your print job, your email address and your name
6. We will email you when your print is ready for pickup
7. Scanning and faxing services are currently not available

Building Trust Through Training

Octopuses are incredible invertebrates—just ask National Aquarium Aquarist Roxy Garibay! Learn how she works with our giant Pacific octopus to build trust and teach behaviors that reinforce its natural abilities. [Watch here.](#)

Curiosity Camp After School

Curiosity Camp After School, a virtual science enrichment program, brings the excitement of a STEM camp to students at home. Targeted for ages 6–12—with an emphasis on encouraging girls to explore careers in STEM—the program features engaging videos, downloadables, and creative projects to explore STEM topics such as climate change, data science, and deep sea research. Each video spotlights a female STEM leader and role model who shares her STEM journey and ideas for getting students engaged in STEM. In Draw Her Life videos, students learn about each scientist's life to date, discovering what her goals were and are, how she has achieved success, and more. In Cool Tools videos, scientists introduce the special objects, tools, and products important in their work and research. What's the Scoop videos offer background knowledge for students on STEM topics.

You Can Help

Parent/Community Volunteer needed to be an advisor to the eCybermission Team.

eCYBERMISSION is a web-based science, technology, engineering, and mathematics (STEM) competition for students in grades six through nine that promotes self-discovery and enables all students to recognize the real-life applications of STEM. Teams of three or four students are instructed to ask questions (for science) or define problems (for engineering), and then construct explanations (for science) or design solutions (for engineering) based on identified problems in their community. Students compete for State, Regional, and National Awards. The U.S. Army Educational Outreach Program is committed to answering the Nation's need for increased national STEM literacy and to expanding STEM education opportunities across the country to open doors to new career paths for American students that lead to a brighter tomorrow.

A team of 3-4 middle school students can be registered anytime and the competition ends March 3, 2021.

Students will pick a Mission Challenge from the following:

Alternative Sources of Energy
Environment
Food, Health & Fitness
Forces & Motion

National Security & Safety
Robotics
Technology

TREX Competition

We have entered the contest again and are hoping to collect even more. If we collect the most in our division, we will get a Trex bench! Please see the below poster to know what to send in to our school to be recycled. We have boxes on each floor. Students can bring in the plastic from their household (and others they collect from) and deposit in the box at any time.



STEM Opportunities in the Community

Challenge Island Programs

Challenge Island offers a wide array of exhilarating, collaborative STEMtastic programming for kids ages 4 to 14+. Our action-packed options include afterschool enrichment classes, in-school field trips, camps, parties, and much more! No matter what kind of Challenge Island program you choose, you can be sure it will be a blockbuster hit!

Now, kids can experience the magic of Challenge Island®, the world's #1 STEAM program, from the safety and comfort of home. All Home Island Virtual Camps, Field Trips, and Enrichment Classes are taught live by certified Challenge Island® teachers. Children interact with their peers throughout all of our programs.

More info and registration [here](#).

Eden Mill Programs

The nature center and historic grist mill museum are open, by SCHEDULED APPOINTMENT ONLY, Monday- Friday from 8:30-4.

The park grounds are open, but social distancing must be maintained.

All Eden Mill Nature Committee programs have been canceled for 2020 due to the Covid-19 pandemic. Check out our Facebook page for fun nature-themed activities you can do at home!

STEM Saturdays at Microsoft

Teachers, students, and parents are welcome to drop by their local Microsoft Store to participate in these learning experiences. Projects are designed for 11- to 14-year-old students but can easily be completed by younger students with parental support. (*The closest one is in Christiana Mall.)

Harford County Public Library

Get a Virtual Library Card

<https://library.hcplonline.org/polaris/patronaccount/selfregister.aspx?ctx=3.1033.0.0.1>

Brain Battle Family Trivia

Friday, October 30 4:00-5:00 pm Join us for a round of family-friendly trivia featuring questions about all things science – in the movies, in the news, and in the world around us. [Register for Brian Battle Family Trivia](#)

The Mad Scientist's Lab: A Virtual Escape Room

You have found yourself trapped in the lab of a mad scientist. Solve the puzzles and answer the questions in this virtual escape room before you become the next experiment! [Play Now – The Mad Scientist's Lab](#)

GRAB 'N' GO BY APPOINTMENT!

AT ALL HARFORD COUNTY PUBLIC LIBRARY LOCATIONS



Harford County Public Library will offer Contactless Pickup at all Harford County Public Library locations, Monday through Friday, 10:00 am – 6:00 pm.

- ▶ **ALL LIBRARY BUILDINGS** remain closed and appointments are required (NO walk-ins & NO drop-ins)
- ▶ **DRIVE-THRU** Service only at Abingdon, Bel Air, Edgewood, and Jarrettsville libraries.
- ▶ **FRONT DOOR PICKUP** Service only at Aberdeen, Darlington, Fallston, Havre de Grace, Joppa, Norrisville, and Whiteford libraries.
- ▶ **BOOK RETURN DROPS** are open and all materials to be returned must be placed in the book return drops.
- ▶ **BOOK DONATIONS** are NOT accepted at this time.

We are committed to following the latest safety guidelines from State and Local authorities; including the following precautions:



Customers & Staff must practice 6' social distancing at all times.



Customers & Staff must wear masks covering nose & mouth at all times.



All Libraries will follow rigorous cleaning procedures.

For High School Students

[Calculus Videos](#) Ozkan Ozer, assistant professor of mathematics at Western Kentucky University in Bowling Green, Kentucky, offers short calculus and differential equations videos on his [YouTube site](#), [Instagram account](#), and [web page](#). In his videos, he solves examples using demonstrations, covering such topics as finding the volume of a solid, sketching lines in the plane, and finding the acceleration. His goals for the videos are to help students see the fun side of calculus, to supplement calculus courses, and to encourage calculus students not to give up before they complete all of their calculus courses.

Biomedical Engineering Innovation (BMEI)

is a fully online course with hands-on labs that introduces biomedical engineering to high school students by (1) modeling biological systems and designing experiments to test those models and (2) introducing engineering principles to solve design problems that are biological, physiological, and/or medical. Students will model human efficiency, the arm, and the cardiovascular system. Students are expected to use the informational content being taught in math, physics and biology and to apply this knowledge to the solution of practical problems encountered in biomedical engineering. Course number: EN.500.130

Program Dates

- Spring 2021
 - January 25 – April 23, 2021
- Summer 2021
 - TBD

The [application](#) for Spring 2021 will open in mid-October. Click [HERE](#) or contact BMEI for more information.

Smart Scholarship Program

The Science, Mathematics, and Research for Transformation (SMART) Scholarship-for-Service Program is funded by the Department of Defense (DoD). It is a combined educational and workforce development opportunity for bachelors, masters, and Ph.D. students to gain technical skills in critical STEM fields and support the national security mission of DoD.

Mission: The SMART Program provides a combined education and career opportunity to students pursuing STEM degrees that will enhance the Department of Defense (DoD) civilian workforce.

Vision: The SMART Program creates a highly skilled Department of Defense (DoD) STEM workforce that competes with the dynamic trends in technology and innovation to protect national security.

The SMART Program provides STEM students with the tools needed to pursue higher education and begin a career with the DoD. With a full scholarship, students pursuing science, technology, engineering and mathematics (STEM) degrees will be able to focus on complex research to further the DoD's mission and create lasting impact. SMART is a one-for-one commitment; for every year of degree funding, the scholar commits to working for a year with the DoD as a civilian employee. Summer internships prepare scholars for full-time employment and get them accustomed to working with the DoD.

SMART offers a large package of benefits to qualified candidates:

- Full tuition and education related educational expenses (meal plans, housing, and parking not included)

- Stipend paid at a rate of \$25,000 - \$38,000 a year depending on degree level (may be prorated depending on award length)
- Summer internships ranging from 8 to 12 weeks
- Health Insurance allowance of up to \$1,200 per academic year
- Miscellaneous allowance of up to \$1,000 per academic year
- An experienced mentor at one of the Sponsoring Facilities
- Employment placement at a DoD facility upon degree completion.

For more information, click [here](#).

STEM in the News

[Before They Were Scientists, They Were Students. These Are The Teachers Who Inspired COVID-19's Leading Experts To Change The World](#)