St. Joan of Arc STEM Family Newsletter

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

— Desiderius Erasmus Roterodamus

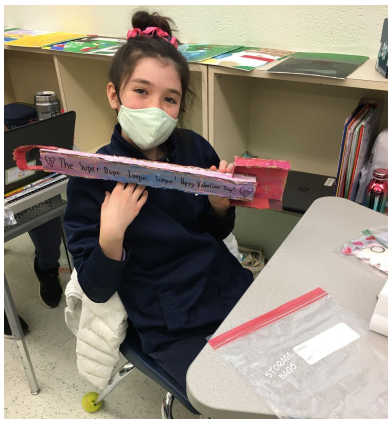
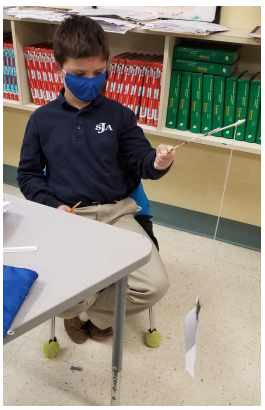
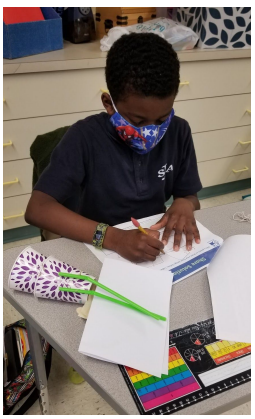
March 2021

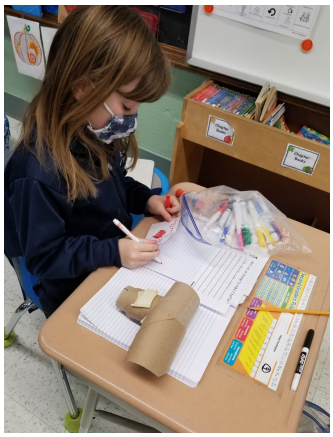
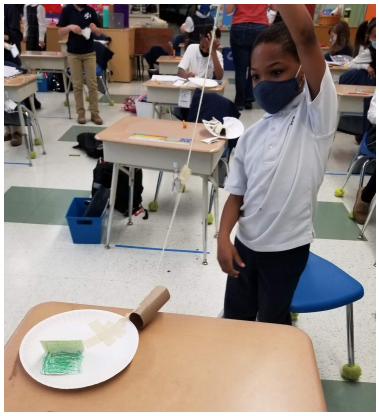
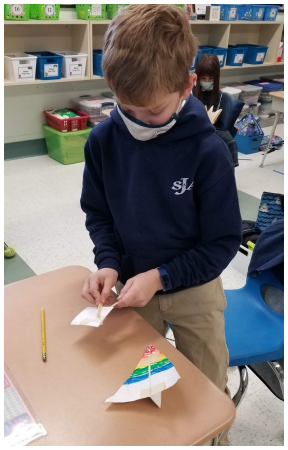
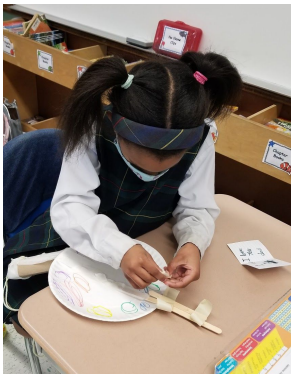
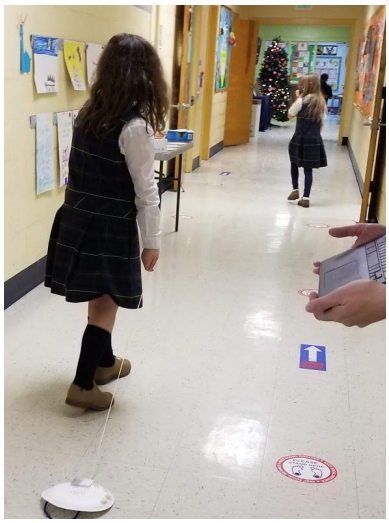
STEM encourages critical thinkers, entrepreneurs, and change-makers, who will lead the nation at the forefront of discovery. Help us inspire our students to change the world!

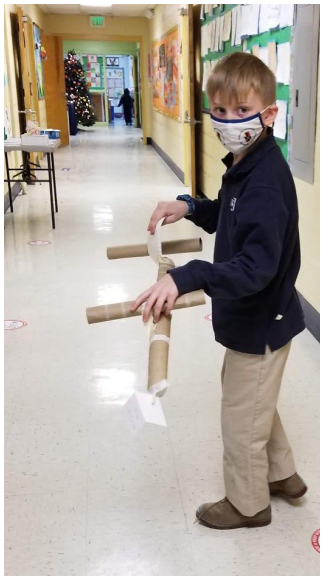
Recent Happenings

All of the classes completed a STEM challenge for Valentine's Day. They had to engineer a way to deliver valentines while remaining socially distant. Here are some of their solutions:

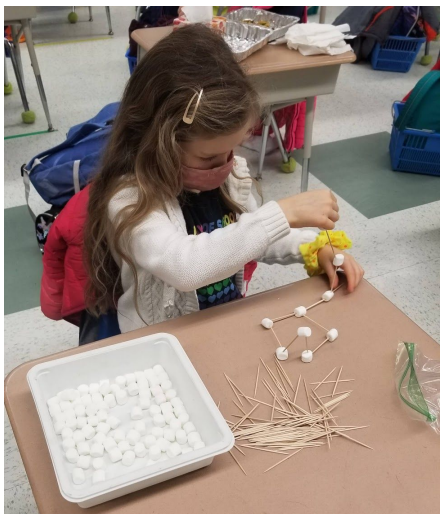
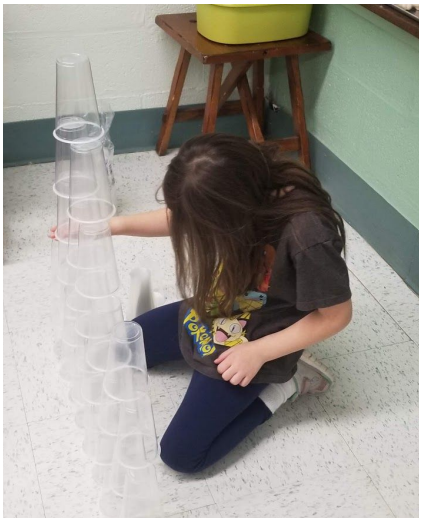
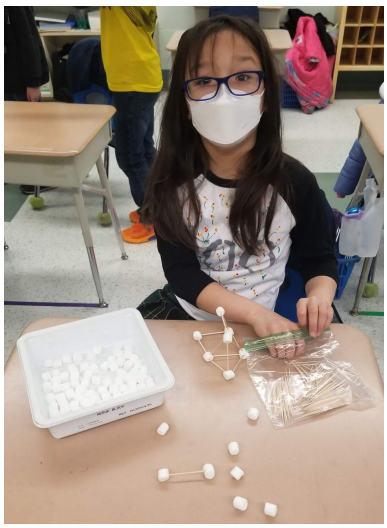


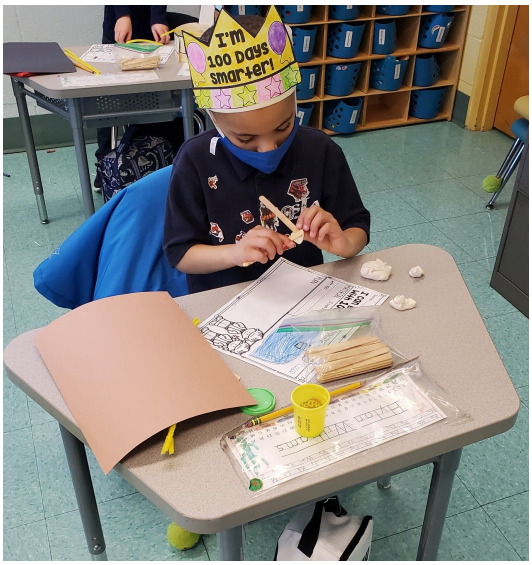







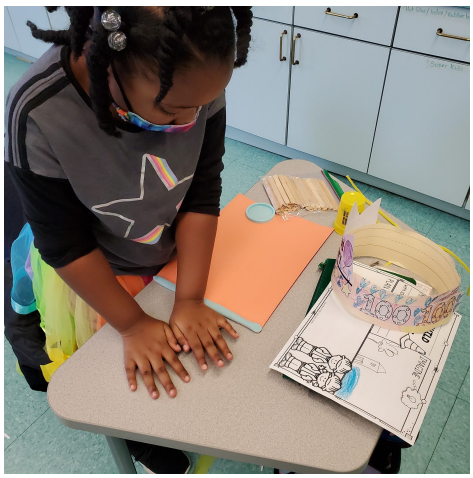


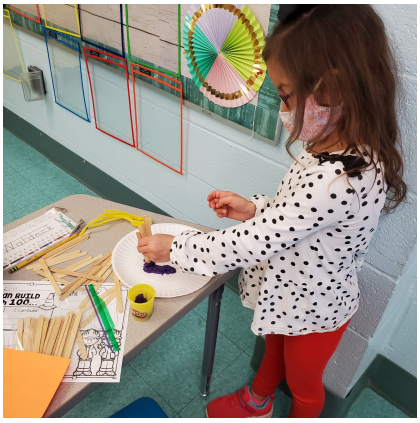
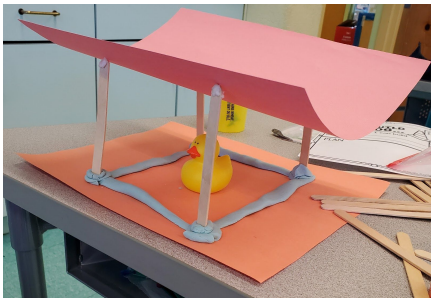
First Grade Completed 100 Day STEM Challenges

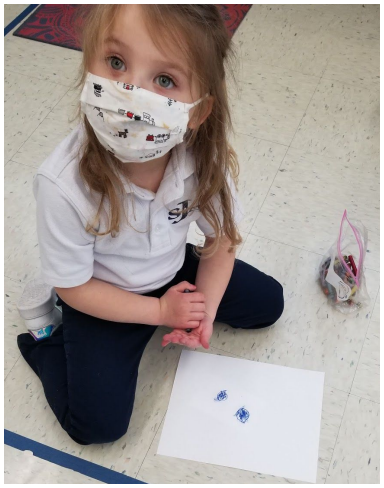
Kindergarten used popsicle sticks, playdoh, construction paper to engineer houses for their rubber ducks. Each student had 50 popsicle sticks so together with a partner they had 100.

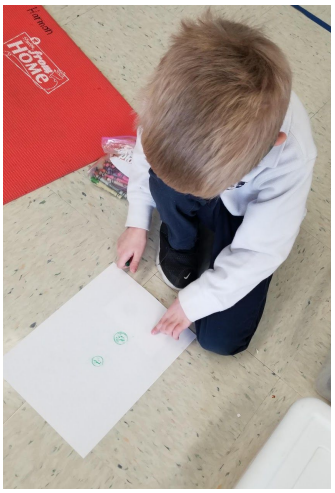
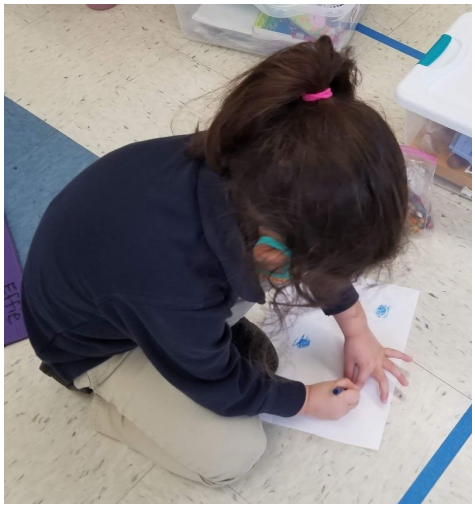




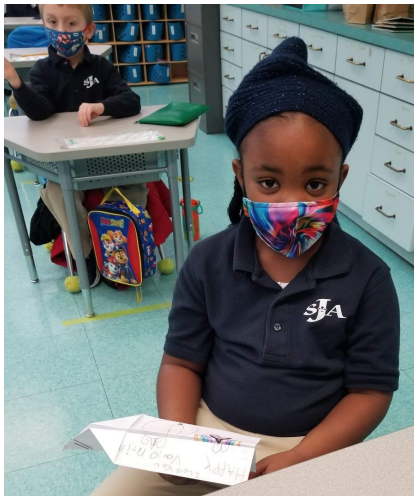
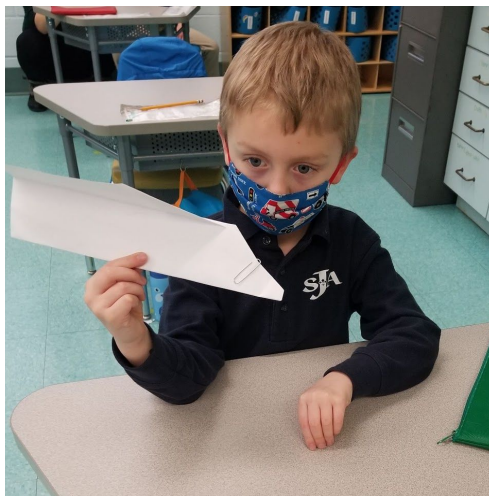
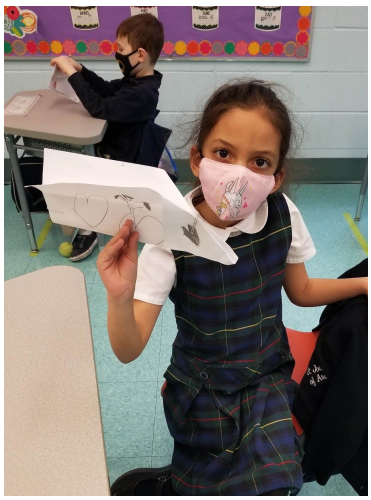
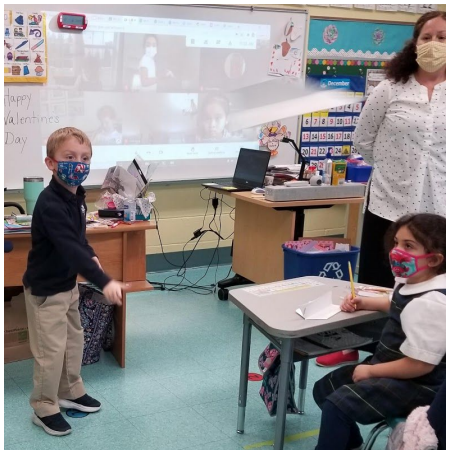
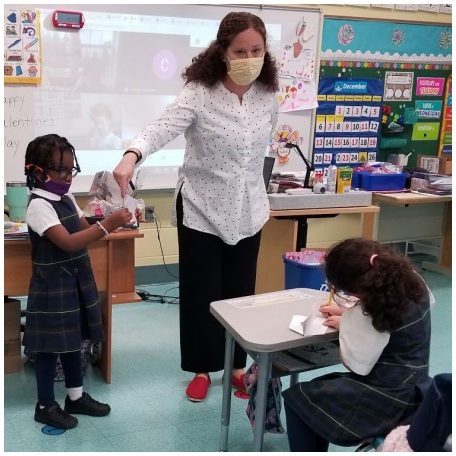
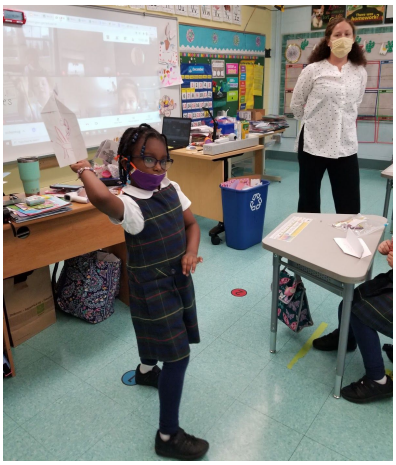




PreK did coin rubbings of pennies and quarters for Presidents' Day.



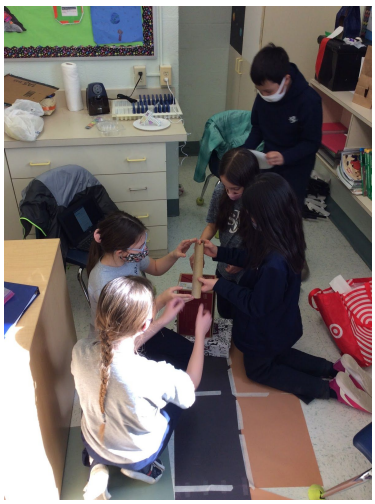
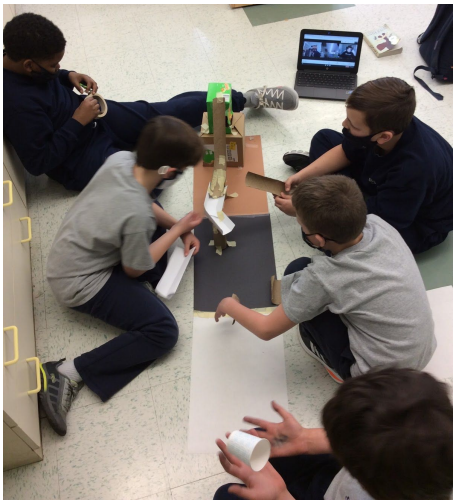



Kindergarten engineered paper airplanes to fly as far as possible during Innovation Lab.

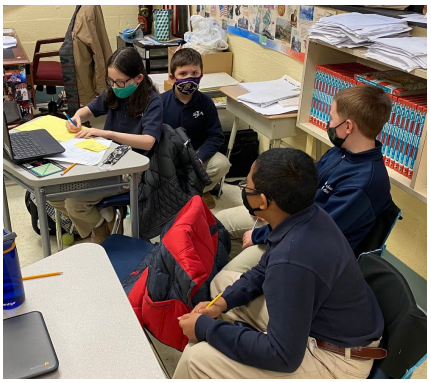
4-7th grade is participating in Mission to the Moon STEM Curriculum Challenge through Vivify STEM. So far, they have made patches for their mission team and completed a roller coaster challenge.









Camp Invention is returning to St. Joan of Arc this summer!

In partnership with the National Inventors Hall of Fame ® (NIHF), St. Joan of Arc is pleased to, once again, offer the nationally acclaimed Camp Invention ® program to children entering kindergarten through sixth grade. This exciting summer adventure provides lessons that explore connections between science, technology, engineering and innovation. Two weeks of the Camp Invention program are available. Each session features different hands-on STEM experiences where children will use teamwork, creative thinking and problem-solving skills to invent unique solutions to real-world challenges. Week one begins on July 5th, 2021 and week two begins on July 12th, 2021. https://www.invent.org/educators/camp-invention

- www.facebook.com/CampInvention
- www.twitter.com/campinvention
- www.pinterest.com/campinvention
- www.youtube.com/NationalInventors HallofFame_NIHF

Week One — 7/5/2021 - 7/9/2021 **Recharge**
Recharge is designed to refresh students' imaginations and renew their self-confidence. Hands-on challenges spark creative problem solving, build familiarity with key STEM concepts and guide students to see that their ideas have value and their innovative efforts can change the world.
https://invent-web.ungerboeck.com/programsearch/moreinfo.aspx?event=32156

Week Two — 7/12/2021 - 7/16/2021 **Elevate**
Imaginations soar as children learn about flight with the help of their very own flight simulation robot, discover ways to protect Earth's ecosystems, sketch and build prototypes while protecting their intellectual property, and design the ultimate sports complex with inspiration from the real-world inventors behind their favorite sports!
https://invent-web.ungerboeck.com/programsearch/moreinfo.aspx?event=32163

Discover all the fun you'll have at camp: https://youtu.be/aX4r8bQSsJA.

Use promo code SUM40 by 3/31 when you register to save $40.

Parents who would like to register for both weeks of Camp Invention can save $60 off their second week registration. Once they complete their first registration, a confirmation email will be sent including a unique URL. They will need to register for the second week using the unique URL, and a promo code for $60 off will automatically be applied to their next registration.

www.facebook.com/campinvention www.twitter.com/campinvention www.pinterest.com/campinvention www.youtube.com/NationalInventors HallofFame_NIHF

Calling all students entering grades 7-9!!!

Want to be a part of STEM camp, but disappointed that it is for campers up to 6th grade? Would you like to earn volunteer hours/experience at SJA's STEM Camp (July 5-9, 2021 and/or July 12-16, 2021 from 9am-3:30pm)? You will build leadership skills and gain mentorship experience as you help the instructors lead a week of creativity! The cost for the week is $135. If you are interested, register here: https://www.invent.org/programs/leaders-in-training

STEM at Home

GLOBE Observer

Click here for activities that don't require special equipment and use materials that can be found at home. These work well with families or groups of different ages and multiple generations. Explore, play, and build curiosity together about science and the environment!

Design A Spy Gadget or Crack A Top Secret Code
Check out the International Spy Museum for these activities and more!

Check out EdinAll Eden Mill Facebook page for fun nature-themed activities you can do at home!

Harry Potter at Home
Cast a Banishing Charm on boredom! Experience magical craft videos, fun articles, quizzes, puzzles, special contributions from Bloomsbury and Scholastic, and much more from the wizarding world of Harry Potter!

Maryland Science Center
Put on your lab coat and have fun with online activities and events that will bring a bit of the Science Center right to your home!

Chesapeake Bay Foundation
Looking to learn more about the Bay? These curated activities, arranged by topic, encourage curiosity and love of the Chesapeake Bay. Teachers and students alike will find these fun resources helpful for learning more about the great Chesapeake Bay watershed.

Smithsonian Institution
Kids and teens can explore art, history, and culture. Fun games, activities, and podcasts related to their vast collections and the research surrounding them are available to you online on a kaleidoscope of topics—from art to zoology!

Write. Right. Rite. with Author Jason Reynolds
Welcome to the “Write. Right. Rite.,” a “GRAB THE MIC: Tell Your Story” video series with National Ambassador for Young People’s Literature, Jason Reynolds!

You Can Help

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

Eden Mill Programs

For those who want to get some fresh air and brave the elements, plan an outing and take a StoryWalk®! In partnership with Eden Mill Nature Center in Pylesville (1617 Eden Mill Road), HCPL created this fun, educational, self-guided activity that places the pages of a children's book out in nature! Now through mid-March, follow the trail beginning at the Nature Center parking lot to read Winter, Winter, Cold and Snow by Sharon Gibson Palermo.
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.

GenCyber Smart Girls Camp

June 21-25, July 12-16, July 19-23, or July 26-30, 2021

- Open to rising 7th, 8th and 9th grade female students in Harford County.
- No cost for those accepted.
- Free lunch and snacks provided.
- Before and after care available.
- Students must meet eligibility requirements.
- Students must wear a mask and comply with HCC Covid-19 screening procedures.
- Completed application must be received by April 12, 2021.
- Camp may switch to on-line delivery if necessary.

Through a grant awarded by the National Security Agency and National Science Foundation, Harford Community College is offering GenCyber Smart Girls Camp for rising 7th, 8th and 9th grade girls interested in cyber. This no-cost opportunity is targeted toward underrepresented populations in cybersecurity as well as those who may not otherwise be able to afford camp. HCC's GenCyber Smart Girls Camp hopes to increase an interest in cybersecurity, teach safe online behavior, and

apply GenCyber Cybersecurity First Principles. Campers will investigate, program and hack familiar Internet of Things (IOT) devices such as fitness trackers, Roomba vacuum cleaners, and Amazon Echoes through a variety of hands-on projects. Campers will learn concepts related to safe digital behavior, cybersecurity ethics, data security, and privacy by experimenting with common devices that integrate Cybersecurity First Principles.
For more information: Dawn Grissom, Project Director 443-412-2364 | dgrissom@harford.edu

Camp Curiosity

June 21-August 20
Summertime adventures and creativity come alive at Camp Curiosity, where kids can boost their academic skills, discover globally inspired cuisine, engineer with MineCraft and ROBLOX, experiment with science, explore the natural world, and so much more! Camp Curiosity offers something for everyone ages 6-17. Full day, evening and online programs are available. Registration is open now; register here .

Joint Science and Technology Institute (JSTI) summer programs

For high school students, JSTI is a two-week research experience. The middle school JSTI program lasts one-week. The goal of JSTI is to provide students and teachers with an opportunity to engage in hands-on activities, team building, and research projects mentored by professional researchers while also gaining exposure to various STEM careers.

There are JSTI opportunities in two locations: New Mexico (JSTI West) and Maryland (JSTI East). Eligibility for each program is different. Please visit https://orise.orau.gov/jstieast/ and https://orise.orau.gov/jstiwest/ to see all eligibility criteria.To apply to a 2021 JSTI summer program, please visit the links below:
JSTI West- July 10-23, 2021, for high school students from across the United States.*
Link for high school students: https://www.zintellect.com/Opportunity/Details/JSTI-West-HS-2021
JSTI East-, July 17-30, 2021, for high school students and teachers from across the United States and DoDEA schools overseas.*
Link for high school students: https://www.zintellect.com/Opportunity/Details/JSTI-East-HS-2021
JSTI East - MS -, July 24-30, 2021, for middle school students from across the United States.*
Link for middle school students:
https://www.zintellect.com/Opportunity/Details/JSTI-East-MS-2021

****Applications close March 22, 2021****

The health and safety of our participants and staff are our highest priority. We are closely monitoring the pandemic and will communicate any changes on the websites as they are made. Appropriate precautions will be taken during the program to ensure the safety of all JSTI participants.
Questions regarding **JSTI East, please contact us at JSTIEast@orau.org.
Questions regarding **JSTI West, please contact us at JSTIWest@orau.org.

For High School Students

Internship available at SJA's Summer STEM Camp

Leadership Interns will work closely with SJA instructors and Camp Invention® and Invention Project® participants to help them explore STEM concepts and become creative thinkers who can invent a better tomorrow. (SJA's STEM Camp will run July 5th - July 9th and July 12th- July 16th from 8am-5pm.) You will get at least 45 volunteer hours for each week (you may do one or both weeks). If interested, you can apply here: https://www.invent.org/programs/leadership-intern

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
Summer 2021 TBD
The application for Spring 2021 will open in mid-October. Click HERE or contact BMEI for more information.

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.

Registration is now open for our High School Girls Only STEM Night and Astronaut Convocation on March 4! This is a virtual event. Sign up today on our website: www.usna.edu/STEM

Hopkins Engineering Innovation

Designed with the intellectually curious student in mind, Johns Hopkins Engineering Innovation's online summer courses allow curiosity to flourish through imaginative, hands-
STEM-based activities. Offered virtually this summer, Explore Engineering Innovation is designed by trusted scientists and engineers from Johns Hopkins University, so you can b sure the academic rigor and ingenuity runs deep throughout the course. Participants build spaghetti bridge, program a microcontroller, pitch an imaginary product or service, and mo What's learning without engaging fun? The course is packed with that, too. And students h the opportunity to earn college credit.
Registration is now open for summer 2021.

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.

Summer Pre-College Program Fairs

The Association for Pre-College Program Directors is proud to present the 2021 Summer Pre-College Program Fairs, a series of virtual events that provide students and their families the opportunity to learn about academic summer programs at top US college and universities.Representatives from Johns Hopkins Engineering (Explore Engineering Innovation and Biomedical Engineering Innovation) will be at the fairs on:

- March 3
- April 10

At each fair, attendees may:

- Visit virtual booths, where you can ask questions via text or video chat with summer program representatives.
- View helpful webinars on how to choose a summer program, how to strengthen your application, how to make the most out of your summer program experience.

Registration is FREE to attendees. We invite you to visit the Virtual Fairs website at https://www.summerstudyintheusa.org/virtualstudentfairs for complete information on dates, times, and which institutions will be represented at each event. We also encourage you to visit SummerStudyintheUSA.org, where you can search participating programs by your grade level, academic interests, and more.
Questions about the event can be submitted to PCPDVirtualFairsInfo@gmail.com.

STEM in the News

Discovery Center at Water's Edge

A regional science and discovery center planned for Harford County has a new home and a new name, and on March 4, a virtual community meeting will be held for people to learn more about the project and how they can contribute. Baltimore Sun article here.
If you go:
What: Discovery Center at Water's Edge virtual community meeting on Zoom
When: 5 to 6 p.m., Thursday, March 4
Register: discovery-center.eventbrite.com. Login credentials will be sent to an email address upon registration.
More information: 410-417-7116 or apgdiscoverycenter.com

Education is our passport to the future,
for tomorrow belongs to the people who prepare for it today.
– Malcolm X