

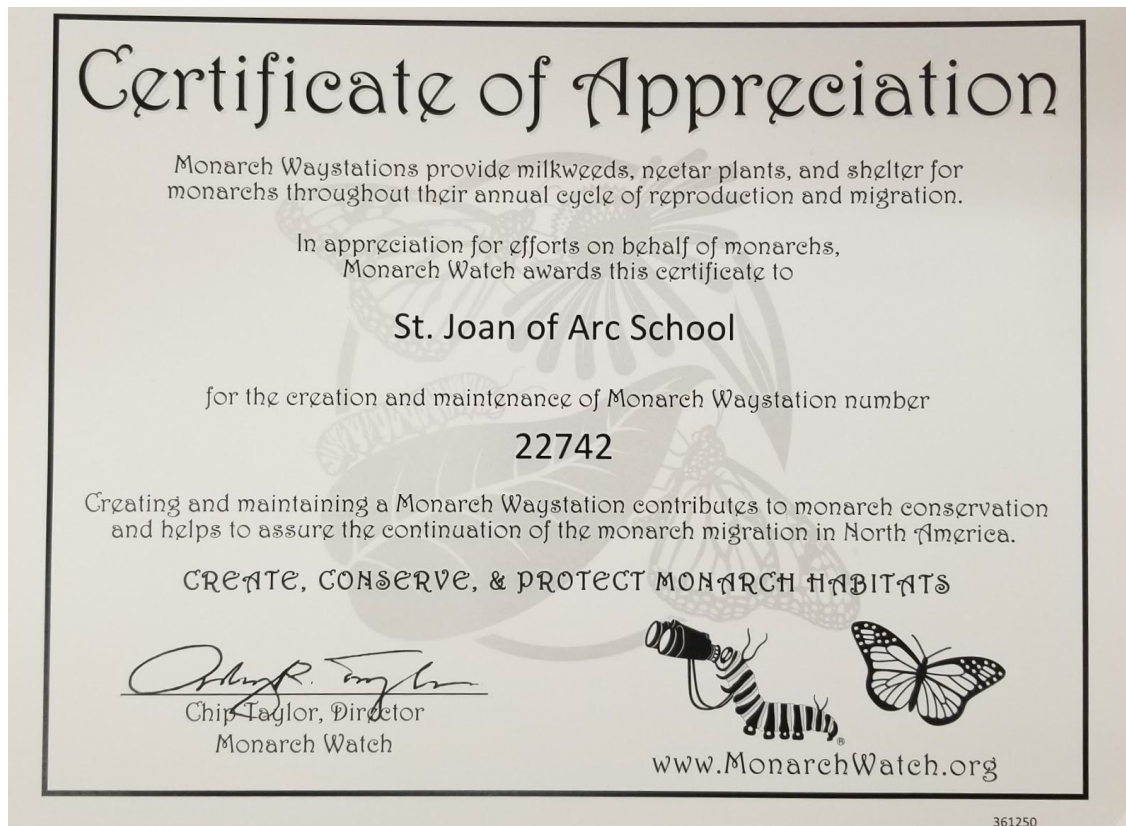
St. Joan of Arc STEM Family Newsletter

March 2019

Recent Happenings

St. Joan of Arc has become an official Monarch Waystation! We are very excited about this and hope to participate in tagging and documenting butterflies in the future. You can find us here: by searching for ID # 22742

<https://fusiontables.google.com/DataSource?docid=1-DINtsd5JPwonzF3QpYgLPxUfhHzp-Swn5GqlssO#map:id=3>

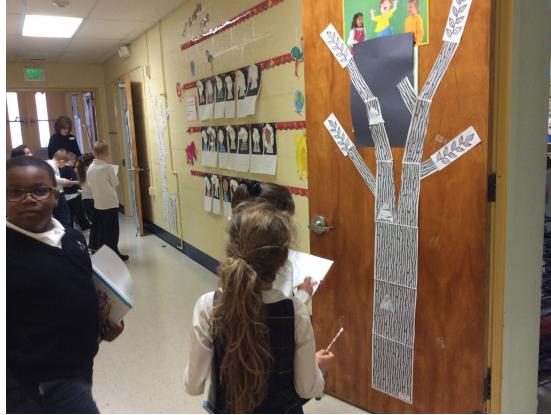


*Mrs. Kathleen Smith recently learned that her Chesapeake Bay grant application was approved. SJA will receive over \$4000 from the grant to help with our garden and conservation efforts as well as our Green School initiative! We are so thankful for her efforts!

First grade is doing a Mystery science unit: Plant and Animal Superpowers: Plant and animal structures and survival. This unit about plants and animal survival helps students develop the idea that, just like a superhero has special powers, every animal and plant has special parts and behaviors that help them grow and meet their needs.



Which beak is best?



Looking for camouflage moths.



Making and testing a camouflage moth.

*Fifth graders just completed their colonial agriculture section of their colonial quest. Students made diagrams of their planting surveys, created a set of directions for planting and sowing their food and money crops, planted their fields and created an apparatus to irrigate them. Students are now creating charters to organize and govern their settlements.

*Fifth graders have been reading the book "Chains" which is a story about the African American experience during the Revolutionary War. They have been analyzing some of the works of the first published African American woman poet, Phyllis Wheatly and through her inspiration are creating poems and portraits that symbolize that experience.

*Fourth graders just finished creating their plans of piracy where they mapped their schemes using the world's imaginary grid system and their knowledge of the Triangular of Trade. They composed detailed descriptions of their plans in a formal business letter to Edward Teach. In Language Arts students are studying the elements of Dragonology in efforts to help our main character in our story "Sea of Trolls." Students are researching the anatomy of a dragon including it's skeletal and muscular systems.

February was coding month at SJA. Students from PK-8 participated in an hour of code and had the opportunity to work with our robotics.



3rd grade coding



4th grade coding



6th grade coding

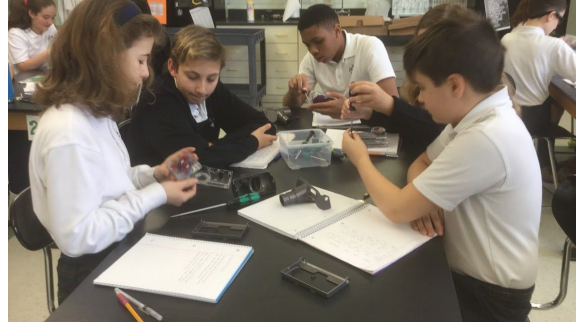
The seventh grade Skyped with Mr. Kurt Boudonck from BASF Corporation to learn more about GMOs and their impact on us.



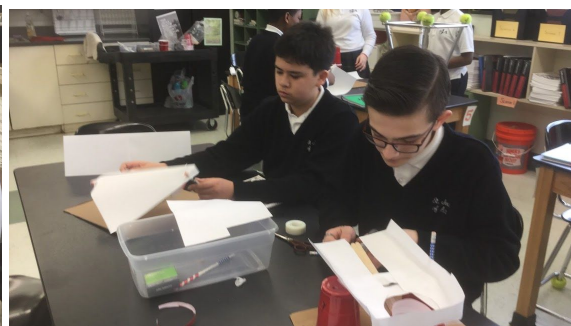
After engineering the perfect pancake recipe by determining the best ratio of water to mix and the best time to flip the pancakes, the seventh grade invited the kindergarten class to make and serve pancakes to the entire school on Shrove Tuesday. We used the opportunity to make it a fundraiser for our garden and it was a great success, raising over \$400.



The 6th and 8th grades recently completed a unit sponsored by Dyson. They had the opportunity to see videos with engineers from the company explaining their jobs and how they use the Design Engineering Process. Then, they were able to investigate the Dyson DC39 and its attachments. They were able to take apart the vacuum and tools to explore how they were made and why they were made that way.



The 6th and 8th grades are entering the 2019 Fluor Engineering Challenge. You can find more information here: <https://www.sciencebuddies.org/fluor-challenge?linkId=34353038>.



STEM Opportunities in the Community

Eden Mill Programs

Pre-registration is required for all programs. Please call 410-836-3050 during office hours, Monday – Friday from 9am - 2pm or email edenmillnaturecenter@gmail.com. Pre-registration is also available on-line: <https://goo.gl/forms/ixqAK8OC1nAvSrai2> Registration closes 24 hours in advance of programs. Weekend program registration closes at 12:00 on the prior Friday.

Find their Spring Flyer here:

<https://files.constantcontact.com/10008d3c301/74c587c3-e82d-48cd-8b89-5bed88294bb3.pdf>

Harford County Library Programs

The libraries in Harford County do a great job of offering STEM programs for all ages. STEM programs are free and open to the public and lead by skilled library staff and/or experts in the field.

Please be sure to visit <https://hcplonline.org/leaprograms.php> to look at the programs with your student(s). Here are just a few of them:

Night at the Planetarium: Can You Believe Your Eyes 6:30 PM - 7:30 PM 3/14/2019

Join us at the Southampton Middle School Planetarium (1200 Moores Mill Rd, Bel Air) as we answer these questions and more. We'll debunk myths and misconceptions and show you how to observe the sky in a whole new way! Doors open at 6:00 pm, presentation is 6:30-7:30 pm. Late arrivals cannot be accommodated. Each person attending must register prior to the event.

STEM Stuff 3:30 PM - 7:30 PM 3/14/2019

Ever wonder how 3D printers work or what virtual reality is all about? Stop by and experience them for yourself! Whiteford Library - Meeting Room

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presentation is 6:30-7:30 pm. Late arrivals cannot be accommodated. Each person attending must register prior to the event. Bel Air Library - Offsite

Young Gardeners 2:00 PM - 3:00 PM 3/16/2019

Each month, we will explore plants and how they grow. Learn about hydroponics, what is inside a seed and more! Supported by the Havre de Grace Friends of Harford County Public Library. Havre de Grace Library - Meeting Rooms A & B Combined

STEM Station 10:00 AM - 8:00 PM 3/18/2019

Drop in and explore our science station every week for a new hands-on activity! Supported by the Aberdeen Friends of Harford County Public Library. Aberdeen Library - Children's Department Floor

Experiment & Explore: The Color Green 10:30 AM - 11:00 AM 3/19/2019

Learn all about the color green through fun stories, hands-on experiments, and exploration. Supported by the Joppa Friends of HCPL. Joppa Library - Meeting Room

Marble Run Mania 5:00 PM - 6:30 PM 3/20/2019

Work together or by yourself to create a marvelous marble run from everyday items. Jarrettsville Library - Public Area

STEM Stuff: Concoctions 6:30 PM - 7:15 PM 3/20/2019

Learn about chemical reactions as we make some concoctions! STEM-ulate your mind as we explore sciences. Fallston Library - Meeting Room

Preschool STREAM Time 10:30 AM - 11:15 AM 3/21/2019

Explore science, art, music or math concepts through hands-on experiments, fun activities and demonstrations. Supported by the Havre de Grace Friends of the Harford County Public Library. Havre de Grace Library - Meeting Rooms A & B Combined

Experiment and Explore: Dinosaurs 10:15 AM - 11:00 AM 3/26/2019

Learn all about dinosaurs through fun stories, hands-on experiments and exploration.

Fallston Library - Meeting Room

At the National Aquarium

A DIALOGUE ABOUT DIVERSITY IN CONSERVATION

FEATURING: Tamara Toles O’Laughlin, Maryland Environmental Health Network
Juan D. Martinez, Children & Nature Network

500 E. Pratt St., Baltimore, MD 21202 Tuesday, March 19, 2019 6:30 - 9 pm

NATURE FOR ALL PRESENTS

Join the National Aquarium and community partners for an evening of dialogue about diversity in conservation. An esteemed panel of conservation trail blazers will share their insights and inspiration, reflecting on challenges, trends and progress in the field. Lend your voice to be part of the discussion and get to know leaders who are working to connect diverse communities to the outdoors.

Tickets are \$15 and include a reception with light refreshments.

Please visit aqua.org/lectures to learn more and purchase tickets!

*After-hours events do not include access to exhibits.

Joint Science and Technology Institute

The **Joint Science and Technology Institute for Middle School Students (JSTI-MS)** is a one-week, fully-funded, residential science, technology, engineering and math (STEM) research program that provides middle school students the opportunity to solve and complete STEM challenges and projects. The hands-on projects provide students with opportunities to develop problem-solving and collaboration skills. The purpose of the program is to provide students with an opportunity to solve STEM challenges while working as a member of a small team and to inspire them to become lifelong STEM learners. Current 8th graders who will be entering the 9th grade in 2019-2020 academic year are not eligible. Please apply next year in the spring of 2020 for the high school program.

The **Joint Science and Technology Institute for Students (JSTI-HS)** is a two-week, fully-funded, residential STEM research program for current high school students in the United States and Department of Defense schools around the world. Students will participate in research projects mentored by Department of Defense research scientists and other subject matter experts. The purpose of the program is to inspire and encourage students to pursue careers in science, technology, engineering and math (STEM) fields, increase STEM literacy, and expose students to the importance of STEM through hands-on, relevant research.

For additional information or to apply to the 2019 JSTI summer program, please visit their website at: <https://orise.orau.gov/jsti/default.htm>

Deadline March 15, 2019, 11:59 PM Eastern Daylight Time

Exciting News

SJA is proud to announce that we will be offering a STEM Camp from July 15th - July 19th from 9am-3:30pm for incoming grades K-6. There is also a Leaders-in-Training (LIT) program for incoming 7th-9th graders. LITs will gain mentoring and collaboration skills while helping guide campers throughout the week! Camp will be run by our very own Mrs. Barberry! See below for details. If you would like to help at this camp, please email Mrs. Tokarski to let her know (ttokarski@stjoanarc.org).

Unmask your child's creativity this summer in the all-new Camp Invention® program, Supercharged, where children build confidence, learn to collaborate and transform their wild imaginations into epic creations. Campers in grades K-6 will learn creative problem-solving skills while coding and programming futuristic robots, uncovering ancient fossils, designing high-tech superhero gadgets and exploring radio frequencies. Local educators will lead this action-packed program featuring exhilarating, hands-on STEM activities teaching children to question, explore, break through obstacles and embrace failure! Early registration discounts are available! Register and find current promotions at invent.org/camp or call 800.968.4332.

Empower Girls to Invent Their Future!

Currently, only 18 percent of patented inventors are women, and if we continue at the current rate, it will take 118 years to reach a gender balance.

Register a girl for Camp using the code **GIRL25T** for \$25 off. **Our program will also have the chance to WIN an exciting guest visitor this summer!**

Each girl registered with this code will be entered to win a Camp visit from [Dr. Arlyne Simon](#), biochemical engineer, patented inventor and author of "Abby Invents Unbreakable Crayons!" On April 1, one name will be randomly selected for their Camp to win this special visit, and each camper will take home a signed copy of Dr. Simon's fun, empowering book.

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 15th - July 19th from 9am-3:30pm) and work with Mrs. Barberry and Mrs. Smith? You will build leadership skills and gain mentorship experience as you help them lead a week of creativity! The cost for the week is \$130. If you are interested, register here: <https://www.invent.org/programs/leaders-in-training>

For High School Students

Internship available at SJA's Summer STEM Camp

Leadership Interns will work closely with Mrs. Barberry and Mrs. Smith 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 15th - July 19th from 9am-3:30pm.) You will get at least 40 volunteer hours. If interested, you can apply here: <https://www.invent.org/programs/leadership-intern>

Summer STEM Program at USNA

The STEM Center and the Office of Admissions host this success oriented, project-based curriculum for rising 9th, 10th and 11th graders. Three week-long camp sessions are held in June, with over 280 students per session. Students from diverse backgrounds and from around the country stay on campus at Bancroft Hall during this residential program. USNA faculty and staff with support from midshipmen present a wide range of activities under the theme "Land, Air and Sea: Exploring Navy Technology on All Fronts", including: optimizing hull design, building circuits, cyber security, 3D simulation, storm chasing, the physics of light, robotics, and much more.

Thinking of a career as a coder, game developer, designer, or robotics engineer? Then start with the experience of a world-class program like the Naval Academy's Summer STEM Program.

STEM is all about exploring, creating, building, and making things better, and at our Summer STEM Program, you'll do just that. You'll work with students from all over the country as you test your problem-solving, creativity, and collaboration skills.

2019 SESSION DATES

RISING 9TH GRADERS JUNE 3 - 8

RISING 10TH GRADERS JUNE 10 - 15

RISING 11TH GRADERS JUNE 17 - 21

Top 5 Reasons to Attend Summer STEM

5. A Field Trip to the Nation's Capital
 4. Build Cool Things
 3. Live on Campus
 2. Meet New Friends
 1. Experience STEM at the #1 Top Public College in the Country (Forbes) and #5 "Best Undergraduate Engineering Program" in the Country (U.S. News & World Report)
- Applications will close on April 15, 2019

https://www.usna.edu/Admissions/_files/STEMmerged.pdf

Interesting Article

Study: Kids' Math Motivation Stems from Their Parents' Attitudes

<https://www.npr.org/2018/12/16/676188220/how-to-make-sure-your-math-anxiety-doesn-t-make-your-kids-hate-math>

Interesting Facts

Did you know that more than two-thirds of the fastest growing careers and jobs require skills/knowledge obtained from at least one STEM discipline?

<https://www.brookings.edu/research/the-hidden-stem-economy/>

While today's generation of students consistently expresses interest in science, technology, engineering and mathematics (STEM) careers, it is estimated that by the end of 2018, 2.4 million STEM jobs in the United States will go unfilled. To meet this demand, it is up to educators to find ways to keep students engaged in STEM as they grow. By exposing students to innovation throughout their schooling, we can prepare them to fill the important and innovative jobs that will move society forward.

In the News

One of the most successful and enduring feats of interplanetary exploration, NASA's Opportunity rover mission is at an end after almost 15 years exploring the surface of Mars and helping lay the groundwork for NASA's return to the Red Planet. You can watch an interesting video about the Opportunity rover mission here:

<https://www.nasa.gov/press-release/nasas-record-setting-opportunity-rover-mission-on-mars-comes-to-end>



As part of our STEM school status, we need to have an active Parent STEM Committee. Responsibilities may include helping with STEM project ideas, after school activities, securing speakers/presenters from various STEM careers. We are seeking members and a chairperson for this committee. The committee can set their own meeting times/locations. Please e-mail Mrs. Tokarski (ttokarski@stjoanarc.org) and/or Mrs. Bahr (vbahr@stjoanarc.org) if interested.

Parent STEM Committee Mission Statement:

The Parent STEM Committee provides enrichment by sharing career and achievements through learning experiences which expand student interest in STEM careers. The committee will actively participate in providing teachers and students with STEM learning opportunities both inside and outside of the school day.

Goals:

- Facilitate an after-school STEM Club's bi-weekly or monthly meetings to engage students in STEM activities/projects.
- Solicit qualified presenters who will engage students in various STEM experiments, projects, and explorations during the school day.

Committee Chair's Responsibilities:

- Ensure that meeting minutes are submitted to SJA admin.
- Arrange meetings as needed