ISSUE #14

ORIGINS

STEM Origins Foundation

June 2026

Isabella Cervantes: Student of the Month

Every month of the school year, we select a STEM student in recognition of those who most reflect our core values of Passion, Diligence, and Aptitude for STEM, while also demonstrating Collaboration with others.

Congratulations to **Isabella Cervantes** of **Parker Elementary School**, who was recognized as our STEM Origins May Student of the Month on May 26th.

Isabella received a medal, certificate suitable for framing, and a gift card to Texas Roadhouse. Isabella was nominated by her STEAM teacher, **Diana White**, who received a display certificate for the classroom, as well as her own gift card to Texas Roadhouse.

Ms. White shared that Isabella exemplifies the STEM Origins core values of Passion, Diligence, Aptitude, and Collaboration in the following ways:

Isabella has an exceptional scientific and mathematical mind, outstanding aptitude, and analytical thinking. She demonstrates genuine passion for STEM. Her natural talent, diligence, persistence, and a wonderful sense of humor make her a joy to teach. Isabella collaborates with classmates and teachers while keeping others engaged and working positively toward shared goals. She takes on leadership roles and is recognized for her individual excellence and her unique ability to inspire and support those around her.

Isabella consistently excels in STEM at a level well beyond her grade. Her aspiration to become a veterinarian reflects her commitment to applying science meaningfully in the real world. We are so proud of Isabella and all she has accomplished.

Keep reaching for the stars, Isabella!

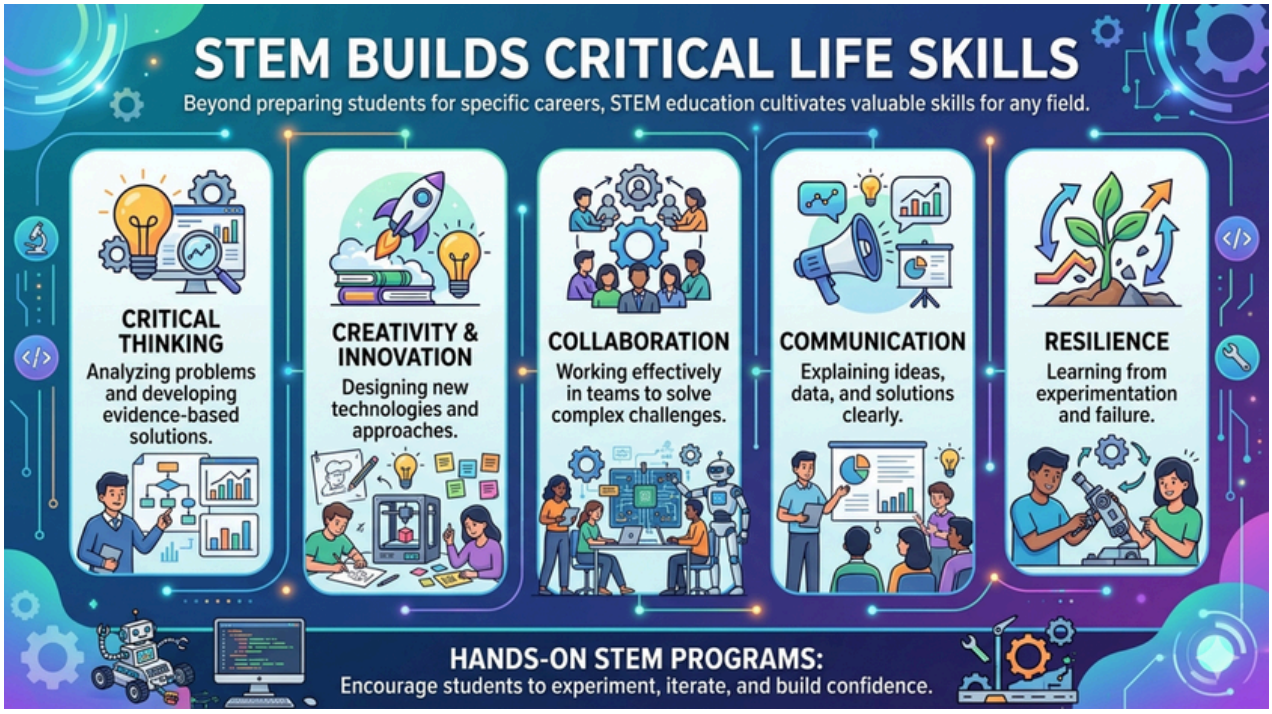
In this issue:

How Does STEM Education Build Critical Life Skills?

Beyond preparing students for specific careers, STEM education cultivates skills that are valuable in any field.
Core skills students gain through STEM learning:

- Critical thinking – analyzing problems and developing evidence-based solutions
- Creativity and innovation – designing new technologies and approaches
- Collaboration – working effectively in teams to solve complex challenges
- Communication – explaining ideas, data, and solutions clearly
- Resilience – learning from experimentation and failure

Hands-on STEM programs such as robotics, coding, engineering challenges, and research projects encourage students to experiment, iterate, and build confidence.



Meet a STEM Origins Volunteer: Dan Rush, Software Engineer

Meet **Dan Rush**! Dan is a software engineer whose career bridges hands-on electronics and full-stack software development. He got his start as a U.S. Navy Electronics Technician, keeping HF and UHF transceiver systems running aboard the USS Fanning (FF-1076) for over four years. After the Navy, he maintained personal radiation monitoring devices at SAIC before earning his B.S. in Computer Science. Dan then moved into software, building Java-based web apps and working on critical projects at Northrop Grumman. There, he developed HAZMAT impact prediction and mapping apps, commander-level dashboards, Docker-based systems for F550 radio payloads, and tested aircraft communication nodes.
Dan loves sharing his high-reliability systems experience with the community—he has lent his expertise volunteering with students at local STEM Nights and at the Gulf Coast Air Show!

STEM Origins: Tom Blake's Engineering Revolution

Before high-tech plastics dominated the waves, legendary waterman **Tom Blake** used principles of fluid dynamics, materials science, and biomimicry to revolutionize modern aquatic design.

Born in 1902, Blake was an elite champion swimmer inspired by the legendary Duke Kahanamoku. While studying ancient Hawaiian "olo" boards at Honolulu's Bishop Museum, Blake recognized that traditional, solid wood boards were too heavy for optimal hydrodynamic performance.

In 1926, Blake began prototyping lighter alternatives. He first drilled hundreds of holes into a redwood board, sealing it with thin wood veneer. Iterating further, he utilized a "skin-on-frame" structural engineering approach inspired by airplane wings, using interior wooden ribs to support a hollow hull. This breakthrough cut surfboard weight by half, directly leading to his victory at the 1928 Pacific Coast Surfing Championship.

Blake patented his "water sled" design in 1931. Its drastically improved speed and buoyancy caught the attention of the American Red Cross, which adopted it as the world's first standard, mass-produced ocean rescue paddleboard.

Blake's innovation did not stop there:

- 1929: Engineered the first waterproof camera housing, capturing historic action shots for National Geographic.
- 1935: Invented the surfboard fin (skeg), introducing directional stability and tight-angle maneuvering.
- 1930s: Built an early sailboard prototype, laying the groundwork for modern windsurfing.

By publishing his open-source blueprints in Popular Mechanics, Blake democratized the sport. His legacy perfectly illustrates how STEM thinking transforms ancient traditions into modern lifesavers.

U.S. Patent No.
1,872,230

Inducted
2025

Born
March 8, 1902

Died
May 5, 1994

Upcoming Events...

- June 11: Rising Star Scholarship Award Ceremony @ GCSC
- July 9: Field Adventures by the Bay
- July 10: MLK Jr. Recreation Center: Baking Soda Volcano
- July 18: LMWS Grandparents Day
- 01 August: MLK Jr. Recreation Center: Solar Oven S'Mores

Empowering the Next Generation: STEM Origins Foundation Invests $26,000+ across Five Bay County Elementary Schools

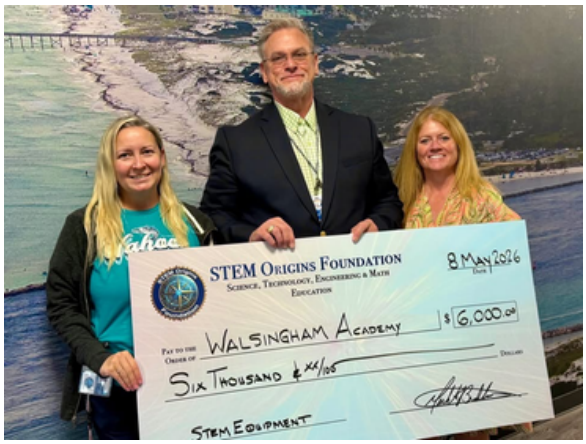
May was a monumental month for the **STEM Origins Foundation**! Driven by our core mission to ignite a lifelong passion for science, technology, engineering, and math, we were thrilled to distribute transformative funding across five different elementary campuses in Bay County, FL.

Supported by a generous grant from the **St. Joe Community Foundation**, our foundation first presented a $6,000 technology grant to four deserving schools, totaling **$24,000 in classroom investments**. These funds are explicitly designed to deliver hands-on tools, modern upgrades, and creative learning environments that empower students to build our future. With an additional generous donation from **Mark Kinkade**, we added on!

Here is a closer look at the celebrated milestones posted to our community this month, highlighting a few of the specific high-tech tools each campus is bringing to their students. A full list of exact items to be purchased for each school may be viewed on our STEM Origins Foundation Facebook page.

Elevating Classroom Tools: Walsingham Academy

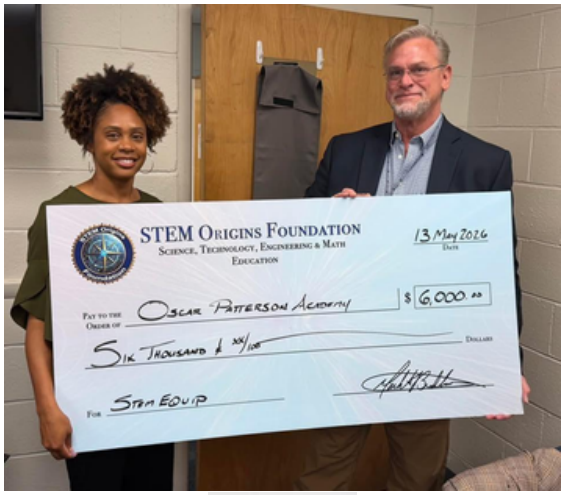
The first stop on our celebration tour was **A. Gary Walsingham Academy**, where educators were presented with a $6,000 check to fund collaborative workspaces to encourage team-based problem solving.



With new tools such as robotic coding kits, 3D printers, LCD microscopes, and magnetic building tiles, educators are empowered to host immersive, project-based activities that motivate elementary pupils to collaborate, design, and physically experiment!

Driving Digital Innovation: Oscar Patterson Academy

Next, our foundation visited **Oscar Patterson Academy**, where the excited recipients were granted a $6,000 check to enhance their collaborative workspace technologies and tactile STEM learning modules. With tools for 3D printing, garden growing materials, microscopes, and math manipulatives, STEM education becomes more tangible and exciting from an early age!



Upgrading Creative Spaces: Bozeman Elementary School

Thirdly, our foundation visited **Bozeman Elementary School** to deliver another $6,000 tech grant to support their growing young thinkers with tools to support student-engineered circuits, buildings, and bridges. They will also be purchasing materials for learning about geology, weather, and erosion, as well as digital microscopes and math manipulatives to help abstract concepts feel more concrete!

Expanding Horizons: Lucille Moore Elementary School

The fourth stop on our celebration tour was Lucille Moore Elementary School, where we delivered another $6,000 tech grant to support their growing young thinkers with immersive planetarium projectors, space science gear, coding robots, and engineering tools. By bringing the universe into the classroom, their elementary students can transition seamlessly from consumers of technology to active, curious explorers!

Future Engineers: Patronis Elementary

On May 27th, we had the pleasure of delivering a $2,060 grant to **Patronis Elementary School** for the purchase of STEM Equipment. This funding was made possible by a generous donation from **Mark Kinkade's State Farm Agency**. Many thanks to Mr. Kinkade for empowering us to deliver these fantastic resources!

This grant includes funding for all the items on Patronis' Wishlist for the Engineering focus area. See more info on Facebook for specific items to be purchased. All of these tools significantly expand and enhance STEM education for their students!

A Golden Ticket to Tomorrow

The energy inside the **Bay District Schools** board room on May 26 was electric, filled with the soft rustle of parents adjusting their cameras and students shifting excitedly in their seats. They were waiting for a moment that would change the trajectory of their summers, and possibly their futures. This year, the STEM Origins Foundation was proud to fund a total of **25 summer STEM Camp scholarships** at **Gulf Coast State College (GCSC)**, offering these bright young minds a gateway to hands-on discovery.

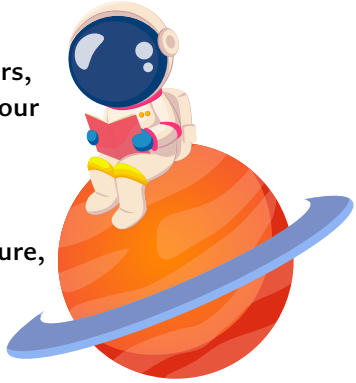
The selection process was rigorous. While 15 scholarships were awarded to deserving Rising Star Scholarship recipients, an incredible, quiet act of generosity from a local family funded an additional 10 slots. These final 10 students were chosen purely on merit, selected from all grade levels based on their exceptional scores on our foundation's nomination forms.

The scholars stepped forward with great applause to receive a commemorative "Golden Ticket"—their official passport to camp, complete with the registration codes that unlocked a summer of robotics, chemistry, and advanced physics.

Watching from the audience were the two quiet benefactors who made those extra ten scholarships possible. Though they insisted on keeping their names private, they couldn't resist attending the meeting to see the real-world impact of their gift. As they helped hand out the awards, they got to see the pure joy on each of the student's faces and the immense pride on the faces of their parents. Thanks to community-driven hearts and the hard work of these 25 brilliant students, the future of STEM in Northwest Florida has never looked brighter.

How to Donate

Want to help us bring more 3D printers, coding robots, planetarium projectors, engineering tools, and STEM camp registrations to students in our region? Your generosity helps the STEM Origins Foundation expand grants to additional campuses and students.



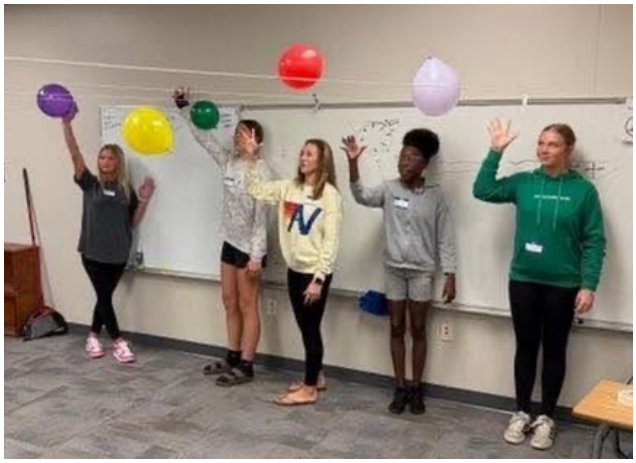
- Visit Our Website: Head to our website's contact form to ask about a secure, tax-deductible donation.
- Spread the Word: Share our posts on Facebook to help highlight the incredible work of Bay County students and teachers!

Mowat Science Boot Camp

At the **Mowat Science Boot Camp**, advanced eighth-grade students transformed abstract concepts into real-world understanding through tactile discovery and collaborative problem-solving. Coordinated by **Advanced Science Teacher Kelli Ferns**, the event rotated students through learning stations focused on hands-on labs, data analysis, vocabulary challenges, and test-taking strategies.

Students performed experiments to test attributes of potential and kinetic energy, and enjoyed the Balloon Rocket Station, where STEM Origins Mentors guided students through advanced physics and chemistry using just a string, a straw, and a balloon. The students actively practiced everyday scientific skills by investigating Newton's Second Law of Motion, force vectors, and the material science of latex polymers. These eighth graders kept pace with college-level concepts, exploring why untethered balloons fly randomly and why popped balloons shatter into pieces.

Reflecting on the event, **Mark Bradshaw** shared that his team thoroughly enjoyed working with the students, who showed a genuine desire to understand the physical phenomena. A special thank you goes to the entire STEM Origins Mentor Team, including **Steve Pavelitz**, **Mark Bradshaw**, **Brian Maxwell**, **Lisa Lee**, and **Mike McManus**, for partnering with Mowat to spark curiosity and build confidence in the next generation of STEM leaders.



Future Physicists Club

On May 16, over 40 enthusiastic students gathered for the Future Physicists Club meeting, transforming abstract concepts into interactive discoveries. Coordinated by teacher **Amanda Walker**, the event featured five dynamic STEM activity stations. Groups of 5 to 8 students cycled through each station, allowing for a collaborative, team-based environment where everyone could participate directly.

Members of the STEM Origins Foundation volunteered their time to lead three of the five high-energy activity stations. Mentors **Brian Maxwell**, **Patty Mathews**, and **Steve Pavelitz** guided the students through hands-on experiments, bridging the gap between textbook physics and real-world applications. The hands-on stations allowed students to test ideas, analyze data, and collaborate in small teams to solve problems.

The partnership between the school and the STEM Origins Foundation created an unforgettable learning environment, leaving an immediate impact on the next generation of scientists.

"Thank you again for being there with us. It was a pleasure to have you all, and the kids had a wonderful time learning from you all."
— Amanda Walker, Teacher

E.O. Wilson Biophilia Center Partners with STEM Origins

STEM Origins is thrilled to announce a monumental new partnership facilitating an exciting summer excursion for **Bay District Schools' Summer Bay Base**, an all-day childcare and enrichment camp for elementary students in Bay District Schools.

Thanks to generous grant funding secured from the **St. Joe Community Foundation**, STEM Origins has successfully coordinated an initiative that will send 400 students to the **E.O. Wilson Biophilia Center** this summer.

This incredible opportunity was made possible through a seamless collaboration engineered by STEM Origins alongside the Biophilia Center, the Bay Base Coordinator, the St. Joe Community Foundation, and the **Bay Education Foundation**. We are deeply honored to lead this effort, bringing world-class environmental education and hands-on STEM learning directly to Bay County students.

The E.O. Wilson Biophilia Center is dedicated to conservation, preservation, and restoration of ecosystems. Designed to foster a deeper appreciation for Northwest Florida's unique ecological environment and conservation challenges, the summer program offers two age-specific and hands-on educational tracks.

Younger students in kindergarten through second grade will explore the "Food Web" theme to understand the interconnectivity of natural food chains. Their activities include an interactive food web game, a seed-ball food creation activity, handling live snakes and turtles, and meeting live bobcats, red foxes, and multiple raptors.

Meanwhile, older students in third through fifth grade will dive into the "Animal Homes" theme to learn about the diverse habitats, burrows, and dens that shelter local wildlife. Their tailored curriculum features a short hike utilizing a gopher tortoise burrow camera, dip netting to identify microscopic aquatic animals, a bird show focused on migration, a lesson on mammal adaptations, and a seed-ball activity designed to create habitats for local insects.

Field Adventures by the Bay

Open to visitors and residents of all ages, this 2-hr experience on July 9th from Emerald & Forgotten Coast Adventures offers a hands-on look at the unique marine ecosystems of Northwest Florida. You will have the chance to see, touch, and interact with the incredible organisms that call our coastal waters home. When you sign up, your tax deductible contribution helps support local students by giving them access to real world marine science field experiences. All ages are welcome. Minors must be accompanied by an adult, and all participants need a ticket. Please register online in advance and complete the required waiver: https://www.zeffy.com/en-US/ticketing/field-adventures-by-the-bay-2

About Us

Our mission is to support local education in science, technology, engineering, and mathematics (STEM) with projects that inspire students and teachers at every level of the academic ladder from kindergarten through college.

We seek to increase the quantity, quality, and diversity of high school and college STEM graduates. Our approach involves engaging students early (K-5) to foster interest in STEM subjects and maintaining engagement throughout middle school, high school, and college with progressively advanced activities.

Programs include providing hands-on experiences, classroom equipment, and access to STEM professionals through visits, virtual presentations, and coaching on innovation and long-term goals. We plan to offer scholarships for college STEM fields and STEM camps for all grade levels over time. Additionally, we support STEM teachers through grants for career development, professional growth, and innovative classroom experiments to enhance student learning experiences.

The STEM Origins Foundation is a 501(c)(3) nonprofit organization in Bay County, Florida. IRS Certification, Articles of Incorporation, and By-Laws are available on our website. Also visit us on Facebook.