



SMITHTOWN CENTRAL SCHOOL DISTRICT

DIGEST

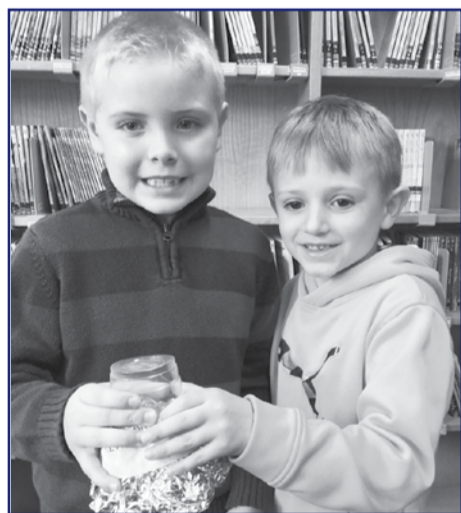
ENRICHMENT OPPORTUNITIES IN STEM



Education is an ever-evolving model, and Smithtown is staying ahead of the learning curve by offering programs to guide students to be more active, engaged learners. Science enrichment opportunities are helping Smithtown students to learn collaboratively, think outside the box, and use their creativity to explore different areas of interest. Different avenues of learning – from in-class STEM programs, after-school clubs and activities, to science research – help students to explore their passions and challenge themselves in the classroom and beyond.

Project Lead the Way

Last school year, the district launched Project Lead the Way, the nation's leading STEM program, into the curriculum for students in K-5 and grade seven. The program guides students to lead their own learning while exploring real-world activities and problems. It also provides students an enriching and collaborative experience with hands-on



activities and self-discovery projects, which enables them to develop critical thinking skills and scientific cognizance.

Lessons are designed using the Activity, Project, Problem approach in which students build an awareness of a science topic through three specific activities, then use their newly discovered knowledge in the project phase to investigate concepts that will culminate in solving a real-world problem.

The elementary Launch Program empowers students to actively design, explore, evaluate and explain concepts in topics such as animal adaptations, the changing Earth, programming patterns and energy conversion, just to name a few. The activities, projects and problems the students engage in allow them to develop an understanding of each module primarily through self-exploration and interactive exchanges with classmates. The Launch program aligns with the Next Generation Science Standards and is being used in the elementary schools to provide an enriching science curriculum.

The Gateway program, launched last year for seventh-graders, features modules in design and modeling, flight and space, and automation and robotics. The program has since expanded to include the science of technology for sixth-graders; energy and environment as a seventh-grade elective; and automation and robotics for eighth-grade students. Also new to the program are eighth-grade electives in technology (green architecture/magic of electrons) and science/math (medical detectives/ computer science).

The Gateway program empowers students to lead their own discovery. The hands-on program boosts classroom engagement and excitement and drives collaboration. "Students engage in activities in computer science, engineering and biomedical science; they can see the range of possibilities that are open to them and help guide their studies in high school and college," said Christine LoFrese, career and technical education director. "They are given problems to solve along with the tools needed to discover creative, workable solutions. The program allows them to aspire to do great things and find solutions to help others. Students are learning how to communicate, compromise, negotiate and think critically."

Research and Robotics

For those high school students looking to explore the sciences more in-depth, High Schools East and West both offer a science research program. Open to students in grades 10-12, the science and technology program teaches methodology in natural and social sciences by accessing scientific databases, using online bibliographic search techniques and consulting doctoral-level research scholars.

Students develop hypotheses and perform experiments to test them.

Writing research papers and making presentations at scientific symposia are an integral component of the course. Throughout the program, emphasis is placed upon performing experiments in consultation with mentors. Research projects are entered into local, regional and national competitions. In the past few years, students from both high schools have received regional and national recognition for their research work.

There are plenty of opportunities for extracurricular STEM activities as well. The robotics club – the Mechanical Bulls – is comprised of two different groups. The engineering group works on building the actual robots for competition and outreach events. This involves manufacturing, fabrication, electrical, programming and design using professional computer-aided design software. The business group is responsible for outreach, public relations, awards for competition, overall day-to-day operations, finding and maintaining sponsors, fundraising and bookkeeping for the Robotics Booster Club. These two groups work together to ensure the team continues to grow, maintain public relations, be successful during the build and competition season, and sustain funds needed to keep the team running.

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Project Lead the Way

Kindergarten: In the pushes and pulls unit, students design and build a tool to move a pile of rocks using concepts they learned during the unit.

First grade: Students learned coding skills to build a program that retold story elements, such as character, setting, problem and solution.

Second grade: Students designed and evaluated how well they built an insulator to block heat and keep an ice pop frozen.

Third grade: In the science of flight unit, students designed, built and tested a model glider to find out how air and other forces affect its flight.

Fourth grade: Learning about energy and its forces, students designed a vehicle with a raw egg inside and then tested forces to see if the egg remained intact.

Fifth grade: Infection detection taught students how bacteria and viruses affect people and how they travel.

Gateway activities: Students in grades six to eight participate in hands-on activities that include designing and testing a hot air balloon, creating electricity using lemons, designing a Mars rover vehicle, making their own ice cream, and creating their own puzzles.

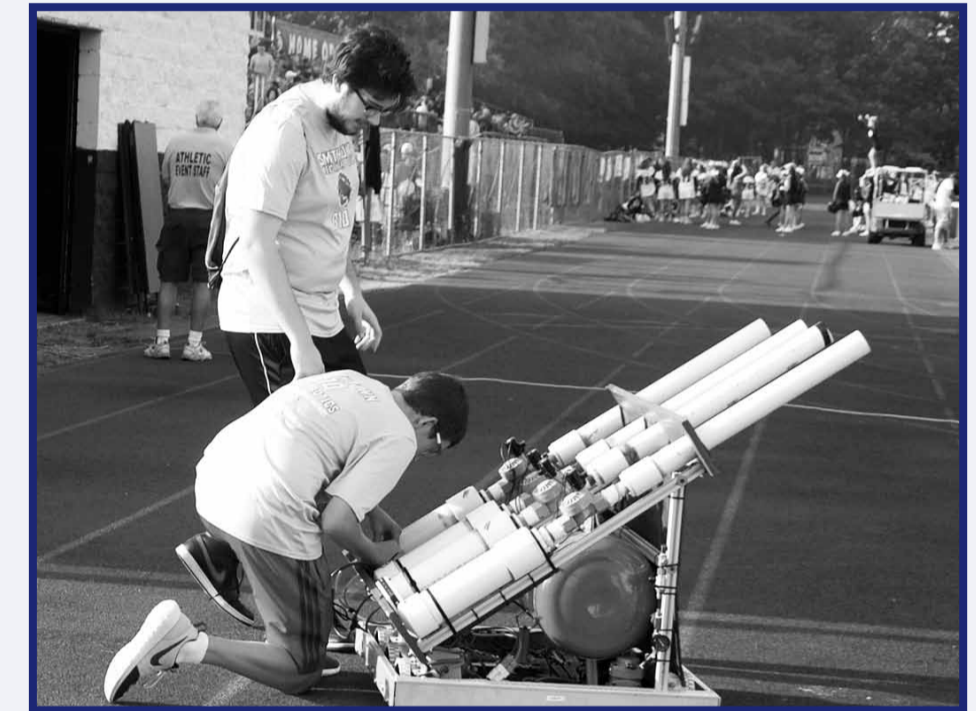


Scan this code to see
PLTW in action.



Elementary Doctors

Via PLTW, the elementary science curriculum provides younger students the opportunity to explore different fields of science, such as the medical profession. For example, after learning about vital signs collected during routine doctor's visits, students measured and graphed the temperature of the palm of their hand. They then analyzed their results and explained the importance of finding body temperature orally as opposed to using the hand or other external body features. Students found and measured their individual pulse rates and then calculated the class average to determine if the class average pulse rate fell into the "normal" range of 60-100 beats per minute.



Building Robots With the Mechanical Bulls

Comprised of students from both East and West, the Mechanical Bulls compete in the FIRST Robotics Competition every year. In January, the team receives a game challenge. Then, in six and a half weeks, the team designs, engineers, constructs and programs a robot to outperform other teams' robots in this game. Each March, the Mechanical Bulls participate in competitions, both locally and out of state.



Readying for Research

Taking their love of science to the next level, high school students have the opportunity to participate in the science research program beginning their freshman year. According to High School East's science research coordinator Maria Zeitlin, the program is designed for students who are interested in a science experience that supports their desire to conduct university-level research in STEM subjects.

Students who express an interest need to be mastering advanced science and math courses in addition to success in all courses, as the research class is demanding in both skill and time. Students apply by making an appointment for an interview with the science research coordinator in ninth grade. This three-year program first introduces students to the scientific method and then mentors them as they work in collaboration with professional scientists at Stony Brook University and Brookhaven National Laboratory.

"Students need to have a sustained work ethic and an innate curiosity about their natural world," Zeitlin said. "Students often continue their passion for research by pursuing collegiate studies in science, math, computing, and neuroscience."

COMMUNITY PARTNERS SPOTLIGHT

Smithtown Children's Foundation

The Smithtown Children's Foundation provides financial and emotional support to families residing within the school district. The founders are all Smithtown residents with children who attend Smithtown Central School District. The organization formed in 2008 to help a local kindergartner diagnosed with Stage 4 neuroblastoma, but as they pooled their resources, the founders realized that they were building something to help the entire community. They have since raised more than \$700,000 for their community.

The foundation provides many avenues of assistance and support to the community. For example, for families in crisis, they help with medical bills and overdue household bills, and buy medical equipment that is not covered by insurance.

The Smithtown Children's Foundation currently provides seven different scholarships for seniors at High Schools East and West, many in memory of loved ones who have passed. The foundation also funds an annual teacher's grant for a worthy classroom project.

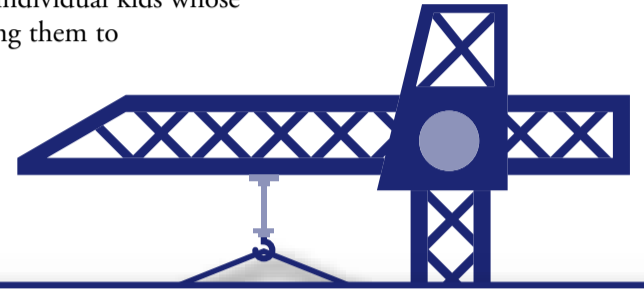
"We have also become a resource for our community's most needy as we work closely with our school district's social workers, providing backpacks, school supplies, as well as Thanksgiving gift cards and holiday gifts," said Christine Fitzgerald, a founding member. "All of which are funded by our signature fundraisers held throughout the year and by the generosity of our supporters."

As word spreads of the foundation's mission, student-run clubs, honor societies, the Smithtown Industry Association Board and the Smithtown Teacher Association have all assisted in the effort. "We have had many teachers/district staff actively involved in our events, from attending to volunteering," Mrs. Fitzgerald added. "Our first inspirational community leader was Ireen Westrack, followed by former Superintendent Ed Ehmann, and one year it was the staff at Accomsett Elementary who first spearheaded Mike's Hike, in memory of Mike Denaro, a teacher from Accomsett Elementary who passed suddenly."

Having the students involved in the organization makes the connection even stronger. "Student-musicians entertain guests at the holiday breakfast and sing the national anthem at Mike's Hike," Mrs. Fitzgerald said. "We have had volunteers at our events from school clubs such as DECA and Leadership to Girl Scouts and Boy Scouts and even individual kids whose parents are guiding them to pay it forward."

The foundation now has

chapters – Tristin's Wish, Smiles 4 S3an, Silent Night and the Smithtown Children's Foundation Hauppauge – to help assist even more families. For more information, visit www.smithtownchildrensfoundation.com.



BUILDING SKILLS THROUGH COMMUNITY PARTNERSHIPS

The district extends a special thank-you to our local businesses that are providing our Smithtown High School West Transition Program students with community-based work experiences. "These experiences enable our students to develop the skills necessary for eventual paid employment," said Assistant Superintendent for Pupil Personnel Services Mona Tobin.

Thank you to the following local businesses:

- Outback Steak House: 216 Jericho Turnpike, Commack
- Party City: 58 Veterans Memorial Highway, Commack
- Little Gym of Smithtown: 70 East Main St., Smithtown
- Smithtown Emergency Food Pantry: 90 Edgewater Ave., Smithtown
- Toys"R"Us: 3250 Middle Country Rd., Lake Grove
- Burlington Coat Factory: 2199 Nesconset Highway, Stony Brook
- Stop & Shop: 3126 Jericho Turnpike, East Northport
- Miller's Ale House: 4000 Middle Country Rd., Lake Grove
- Old Navy: 2089 Smith Haven Plaza, Lake Grove

Thank you, we appreciate your support!

Asbestos UPDATE

The district's ongoing asbestos program complies with the Federal Asbestos Hazard Emergency Response Act and has resulted in the following asbestos abatement projects since our last report.

- Districtwide operation and maintenance floor tile replacement.
- Great Hollow Middle School library and receiving room floor tiles.
- St. James Elementary greeter's office floor tiles.
- Smithtown Elementary faculty room floor tiles.

The district has completed its triannual survey of all the buildings and continues its semiannual surveillance requirements under the regulations of AHERA. This, combined with the district's ongoing maintenance program, has produced a list of operation and maintenance repairs on a districtwide basis. A summary of these repairs is included in each building's management plan.

Any individual may review a building's management plan by going to the school's main office and requesting it. Copies of all the schools' management plans are available for review in the district's central offices at 26 New York Avenue, Smithtown.



SCHOOL COMMUNITY DIGEST

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Smithtown Central School District does not discriminate on the basis of handicaps or on the basis of sex, race, or ethnic background in the educational programs or activities which it operates.