"To raise new questions, new possibilities, to regard old problems from a new angle, requires creative imagination and marks real advance in science."

-Albert Einstein
WHY STEM?

St. Mary’s County Public School System has developed a rigorous and unique program of study emphasizing the core areas of mathematics and science with an infusion of technology and engineering. This STEM program is offered to all SMCPHS students and housed at three schools: Lexington Park Elementary School, Spring Ridge Middle School, and Great Mills High School. The proximity of these three schools to the Patuxent River Naval Air Station and the Technology Corridor make them ideal sites.

WHY DO WE NEED STEM EDUCATION?

RIGOR

- Extensive laboratory experiences using the most contemporary technologies for scientific inquiry, mathematical calculation, engineering design, and problem-solving techniques
- Exposure to numerous and diverse technological applications including: computers, simulation software, digital imaging, data acquisition, sensors, diagnostic, and other peripheral devices

RELEVANCE

- Curricula that integrates analytical reading and technical writing skill development
- Intensive communication assignments designed to refine verbal and visual communication abilities
- Participation in nationally recognized academic and engineering competitions

UNDERSTANDING

- Emphasis on critical and creative thinking in all academic coursework
- Interdisciplinary approach to curriculum, stressing complete understanding of systems

APPLICATION

- Culminating projects done cooperatively and individually to demonstrate and apply learned concepts
- Highly focused academic and career counseling to help facilitate transition to higher education and careers in science, technology, engineering, and mathematics
- An environment of intellectual and technical exchange with local business and industry mentors to promote awareness and interest in diverse careers in science and engineering

RELEVANCE

- Curricula that integrates analytical reading and technical writing skill development
- Intensive communication assignments designed to refine verbal and visual communication abilities
- Participation in nationally recognized academic and engineering competitions

OTHER KEY FEATURES OF THE STEM CONSORTIUM

FIELD EXPERIENCES

STEM students at Lexington Park Elementary School enjoy myriad field experiences within our STEM-centric community. Students visit PAX River Naval Air Station, Sotterley Plantation, Mount Vernon, Elms Beach, and other locations to enhance their classroom learning.

ACCELERATED MATH

Students in STEM 4 and STEM 5 at LPES are engaged in accelerated mathematics coursework. Students are challenged to expand their mathematical thinking and problem-solving abilities. Mathematical concepts are also applied in various challenges and projects where students think and discuss collaboratively.

PROJECT-BASED LEARNING

The inter-disciplinary focus of STEM 4 and STEM 5 ensures key themes and concepts are examined, and students work both independently and collaboratively to solve real-world problems using engineering design principles. Students also utilize current technologies and projects that incorporate robotics and coding applications to engage students.
The Lexington Park Elementary School STEM Academy serves fourth and fifth grade students with teamed teachers offering comprehensive coursework focused upon the interrelation of science, engineering, and mathematics. The STEM coursework includes project-based learning, an emphasis on leadership skills, and the opportunity for students to learn collaboration skills. Students also develop and refine their public speaking and communication skills.

Elementary School

Students in the STEM Academy are challenged at all levels to demonstrate mastery of concepts by applying them to real-world settings. Each academy will have a culminating CAPSTONE project that focuses on an approved problem that integrates mathematics, science, and technology as part of the solution. In the elementary grades, the focus will be on working cooperatively to find solutions. Students identify problems, research, propose and investigate possible solutions. Projects are presented formally. Self-evaluation and peer evaluations are ongoing and an integral part of learning. Students also take local assessments as well as Maryland State assessments to include MCAP.
APPLICATION PROCESS AND ACADEMY REQUIREMENTS

Access the online application form from the St. Mary’s County Public School website: http://www.smcps.org/academies

Each application will be reviewed by an admissions team comprised of educators and administrators who will, in turn, make acceptance recommendations to the academy for accepting members into the program. Candidates will be evaluated based on their past academic performance, dedication to learning, and desire to pursue STEM.

ADMISSION CRITERIA

- Local assessments in Mathematics and English Language Arts
- Naglieri Assessment (Grade 4)
- MCAP Math and English Language Arts assessment (Grade 5)
- Grades in Math and Science (Grade 5)

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Foundation
A 501(c)3 tax exempt foundation will provide a vehicle for community members and business partners to donate funds to support the goals of the STEM initiative.

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