

## **Science, Technology, Engineering, and Math (STEM)**

Frank Lebby Stanton Elementary School provides a learning environment that facilitates and connects standards-based instruction through integration of science, technology, engineering, math, ELA/reading, and social studies to the world outside the classroom via Project- Lead-the Way (PLTW), a grant awarded to the school to support STEM Implementation over the next two years.

Six characteristics evident in STEM lessons planned collaboratively and executed by teachers for the purpose igniting students' interest and curiosity in STEM while preparing students to be competitive in the 21<sup>st</sup> century include:

1. STEM lessons that focus on real-world issues and problems. STEM lessons requiring students address real social, economic and environmental problems and seek solutions.
2. STEM lessons that are guided by the engineering design process. The EDP is a flexible process that takes students from identifying a problem – or a design challenge – to creating and developing a solution.
3. STEM lessons that immerse students in hands-on inquiry and open-ended exploration. Students' work is hands-on, collaborative. Decisions about solutions are student-generated. Students communicate to share ideas and redesign their prototypes as needed. They control their own ideas and design their own investigations.
4. STEM lessons involve students in productive teamwork. Teachers work together to implement teamwork, using the same language, procedures, and expectations for students.
5. STEM lessons apply rigorous math and science content. Teachers purposely connect and integrate cross curricular content with emphasis placed on science and math. Teachers in the area of ELA/Reading and social studies plan with math and science teachers to gain insight into how course objectives can be interwoven in a given lesson. Students learn that science and math are not isolated subjects.

6. STEM lessons allow for multiple right answers and reframe failure as a necessary part of learning. Failure is considered a positive step on the way to discovering and designing solutions.
7. FLS will implement Project-Lead-the-Way, “PLTW provides transformative learning experiences for PreK-12 students and teachers across the U.S. We create an engaging, hands-on classroom environment and empower students to develop in-demand knowledge and skills they need to thrive.” PLTW, 2020.