WHAT DO FIFTH GRADERS LEARN IN STEM?

STEM FLUENCY ✦ CAREER EXPLORATION ✦ ROBOTICS, CODING, & COMPUTATIONAL THINKING

NISD's STEM Program is Unique

NISD's STEM curriculum is based on the Technology Applications TEKS, Career and Technical Education alignment, Texas Career Clusters, and Texas Education Agency's STEM Fluency Skills and Computational Thinking documents.

STEM Fluency Skills

You may have heard people talk about the need for employees to have "soft skills" to be successful in a job. The Texas Education Agency provides educators with descriptions of "STEM Fluency Skills" rather than soft skills. STEM Fluency Skills include: Collaboration, Communication, Critical Thinking, Creativity, and Resilience.

They say this about STEM Fluency Skills: "STEM education also includes a fluency in the skills associated with career readiness and workforce development."

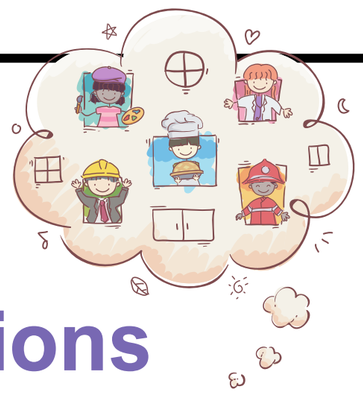
Keyboarding

Fifth grade students continue to practice keyboard techniques including correct hand and body positions while increasing their speed and fluency when keyboarding.

Robotics, Coding, and Computational Thinking

Each year during STEM class, students practice the computational thinking skills to logically solve problems when coding and programming robots. These skills get more complex each year.

Career Explorations

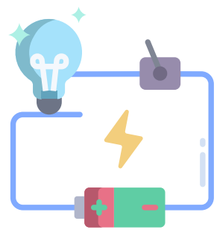


During Career Explorations units each year students learn about and explore a variety of STEM careers. These careers align with CTE courses in middle and high school.

Alternative Energy

Lessons in this unit introduce students to the careers of a fuel cell engineer, solar panel technician, wind turbine service technician, and/or chemical engineer. Students engage in a variety of hands-on activities that may include powering a car with a hydrogen fuel cell or modifying the design of a wind turbine.

Electrical Engineering



Applying what they've learned in science class, students have the opportunity to work in a group to create a solution to a design problem using electrical circuits. They may power motors or lights and need to consider how to incorporate switches and protect circuits for safety.

Heath Science & Nutrition

Fifth grade students learn about both Health Science and Nutrition careers, including using real medical equipment, better understanding nutrition, and analyzing adaptive medical equipment. These lessons give a preview of the subjects at Hobby Health Science Magnet and Stinson Exercise and Sports Medicine Magnet.

Cybersecurity

San Antonio is home to one of the largest Cybersecurity hubs in the country. This unit expands on students' understanding of digital citizenship and exposes them to cybersecurity careers through experiences with computer networks and how to protect them. Lessons give a preview of the subjects at Zachry Cybersecurity and Global Communications Magnet.