FAQs Frequently Asked Questions

STEM SCIENCE • TECHNOLOGY • ENGINEERING • MATH

Q: Will my child have to apply to get into Central Elementary, and will the size of the school change?

A: Students who are currently districted for CES based on the community attendance zones do not need to apply; they will remain CES students. Students who are not in the CES attendance zone will be able to apply for a limited number of openings. The applications will be available **online only** through Orange County Schools.

Q: How will the focus on STEM differ from the focus on EiE, and how does this effect End-of-Grade testing?

A: The EiE curriculum will continue to be taught in addition to the standard curriculum for grades K-5 to reinforces concepts taught in science. However, we will also incorporate other engineering projects and purposefully integrate science, technology, engineering, and math with literacy, social studies, and other content-areas. *(See "What is STEM?")* Students will still be expected to learn and demonstrate proficiency in grade level standards for reading, math, and science (grade 5) as measured by the EOG tests.

Q: How does this change my child's school schedule?

A: The start and end times for school will not change. Students will continue to have all of their core instruction (reading/ writing, math, science, and social studies), specials, and recess, however they will also have an EiE period, as well. The daily class schedule will be created once everyone has received EiE training and we determine what will work best for our students.

Q: Is this related to the one-to-one computer initiative? How will technology be integrated into instruction?

A: The OCS one-to-one initiative is separate from the STEM initiative at CES., Any existing and new school technology will be used similarly to the way it is currently being used; to enhance instruction and learning activities.

Q: Is the program for all students, or just certain ones?

A: Yes, all students at Central Elementary will participate in STEM instruction and learning. (*See "Integrated STEM with a Focus on Engineering")*

Q: Will there be staffing changes?

A: We can anticipate some changes in staffing as the needs of the school change. A STEM Coordinator will be an essential part of our staff. This person will help direct the STEM integration and assist with the EiE curriculum. Other staffing changes (i.e. teaching positions) will be dependent on student enrollment.

Q: Will tutoring programs still be available?

A: Because the tutoring programs are determined by funding sources from year-to-year, it is not possible to provide a definitive answer to that question. However, every effort will be made to provide the supports our students will need to be successful.

Central Elementary School offers a unique educational experience in which students:

- Learn to solve problems using the Engineering Design Process.
- Solve real-world challenges through engineering and collaborative learning opportunities.
- Are empowered to inquire, imagine, explore, create, and improve to become successful learners.

CENTRAL ELEMENTARY SCHOOL
"Engineered for Excellence"

We are **Engineered for Excellence**

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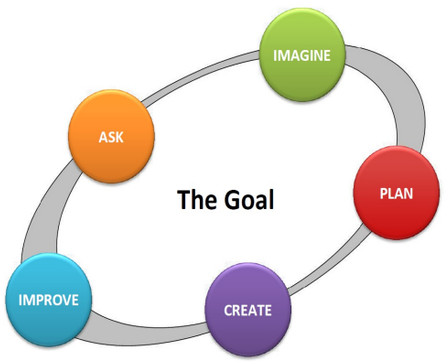
Integrated STEM with a Focus on Engineering

Central Elementary will continue to utilize the EiE curriculum and resources developed by the Museum of Science in Boston, Massachusetts. The EiE kits are a research-based approach to exploring science concepts while incorporating exposure to different cultures and engineering fields. We will continue to focus on:

- Student teams and notebooking. Students learn and practice how to work effectively in groups, with everyone having a specific role. They use interactive notebooks to record their ideas, process information, and reflect on their learning experiences.
- The use of the engineering design process (EDP) as developed for the EiE curriculum. The EDP is an integral part of the school culture and practice, and is used in the lessons from EiE curricular units, instruction in math, science, social studies, reading, and other disciplines, for the redirection/re-focus process for behavioral interventions, and in every imaginable aspect of the school day.

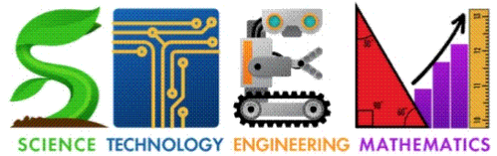
The Engineering Design Process



As a STEM school, we will focus on integrating all four components of STEM into every curriculum area. The **S**cience represents our understanding of the world around us; it is how we explore and engage with the world. **T**echnology represents the tools we use to do the work, and **M**ath is used to measure the process and progress. **E**ngineering represents the thread that ties them all together. It is how we use what we have learned to improve an object, a process, or a system.. As such, STEM can be integrated into every discipline area to maximize student learning by facilitating their:

- ability to work with others,
- learn from their mistakes, and
- use data to solve problems.

What is STEM?



STEM is an acronym which stands for Science, Technology, Engineering, and Math. With our modification of the logo to STEM to emphasize the "E," Central Elementary hopes to communicate that we are dedicated to STEM integration with a primary focus on Engineering.

We have chose to focus on Engineering amongst the other components of STEM because we believe in the goal of engineering at the elementary level to help our students become better problem solvers. While it would be wonderful to inspire an entire population to become engineers, we know that it is highly unlikely that all of the students who receive their education at Central Elementary will choose to go into engineering when they enter the work force. However, if the students who attend CES go on to become better problem-solvers who are able to effectively use data to make decisions and work well with their peers (and future colleagues), then we will have achieved our goal and positively impacted the communities in which our students will live.

Why Teach Engineering to Elementary School Students?

There are many reasons to introduce children to engineering:

- **Children are fascinated with building and with taking things apart to see how they work**; they engineer informally all the time! By encouraging these explorations in elementary school, we can keep these interests alive. Describing their activities as "engineering" when they are engaged in the natural design process can help children develop positive associations with engineering, and increase their desire to pursue such activities in the future.
- **Engineering projects integrate other disciplines.** Engaging students in hands-on, real-world engineering experiences can enliven math and science and other content areas. Engineering projects can motivate students to learn math and science concepts by illustrating relevant applications.
- **Engineering fosters problem-solving skills**, including problem formulation, iteration, testing of alternative solutions, and evaluation of data to guide decisions.
- **Engineering embraces project-based learning, encompasses hands-on construction, and sharpens children's abilities to function in three dimensions** - all skills that are important for prospering in the modern world.
- **Learning about engineering will increase students' awareness of and access to scientific and technical careers.** The number of American citizens pursuing engineering is decreasing. Early introduction to engineering can encourage many capable students, especially girls and minorities, to consider it as a career and enroll in the necessary science and math courses in high school.
- **Engineering and technological literacy are necessary for the 21st century.** As our society increasingly depends on engineering and technology, our citizens need to understand these fields.