



STEM Education Works®



CENTRAL ALABAMA MARINES-COUNCIL

PROJECT PATHFINDER: EMPOWERING EVERY EDUCATOR TO TEACH STEM

WHO THEY ARE

The Central Alabama Marines-Council operates [Project Pathfinder Summer Camp](#), a summer learning program serving students in grades one through eight from military families. The camp combines academic instruction with enrichment activities that help students maintain learning over the summer while creating a fun, hands-on environment.

Each year, Project Pathfinder introduces students to new technologies while reinforcing the math, reading, and critical thinking skills they need for success in the classroom.

THEIR TECH

- Sphero BOLT+
- Sphero BOLT accessories

THEIR GOALS

Project Pathfinder wanted to provide students with an engaging STEM experience, but they didn't have professional STEM instructors to lead it.

Because the camp serves students across eight grade levels, they needed technology that was easy to learn, flexible enough for different ages, and supported by a curriculum that allowed them to begin teaching with confidence.

"The goal is to keep children from losing math and reading literacy skills during the summer so that when they start at the beginning of each school year that they're not having to start from scratch," said Marcel McKenzie, instructor at Project Pathfinder Summer Camp.





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THEIR SOLUTION

Project Pathfinder partnered with STEM Education Works to introduce robotics into its summer programming. For Marcel McKenzie, the experience challenged a common misconception about STEM education and proved that you don't need a STEM background to teach STEM. He teaches music during the school year, but quickly became comfortable leading robotics activities after spending a few days exploring the materials before camp began.

"I am a music teacher. My degree is in instrumental music education. So I'm not even in STEM ... I came into this with no prior knowledge," McKenzie said. "I cannot cheer that on enough that it's extremely easy for educators to pick up on the curriculum."

Instead of following rigid lessons, McKenzie adapted activities for different grade levels, creating obstacle courses, coding challenges, relay races, and team competitions that kept students engaged while developing programming and problem-solving skills.

BUILDING TEACHER CONFIDENCE

As McKenzie became more comfortable with the technology, he began designing new challenges that matched the needs of every age group, from first-graders learning basic movement to middle-school students writing increasingly complex code.

His advice to educators who feel intimidated by STEM is simple. "Don't be afraid of it. When I first looked at everything, I was overwhelmed. But after you play around with it, it's very user-friendly."

The program demonstrated that successful STEM instruction depends less on prior technical experience and more on having approachable tools and strong instructional support.

THE IMPACT

The benefits extended far beyond robotics.

As students learned to break problems into smaller steps and write precise instructions for their robots, teachers began noticing improvements in other subjects.

"Our English teacher noticed they're being much more descriptive in their writing," McKenzie shared. "It's making them think harder about cause and effect."

Students also strengthened their collaboration, persistence, and analytical thinking. When programs didn't work the first time, they learned to troubleshoot, revise, and test new solutions instead of giving up. Older students regularly helped younger campers solve challenges, creating opportunities for leadership and peer learning.

For Project Pathfinder, robotics strengthened the thinking skills students carried into every classroom.



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PARTNERING WITH STEM EDUCATION WORKS

Project Pathfinder found an interactive robotics program that empowered educators, regardless of their teaching background.

“My biggest thing that I want anybody watching my interview in the future to get from me is that you don’t have to be a STEM teacher to be able to implement this. If you’re an educator, you can learn this and you can teach it.”

By making STEM approachable for instructors and meaningful for students, STEM Education Works helped Project Pathfinder create a learning experience that built confidence on both sides of the classroom.

