



STEM Education Works®



CENTRAL ALABAMA MARINES-COUNCIL

PROJECT PATHFINDER: KEEPING STUDENTS ENGAGED ALL SUMMER THROUGH HANDS-ON STEM

WHO THEY ARE

The [Central Alabama Marines-Council](#) operates [Project Pathfinder Summer Camp](#), a summer learning program designed for students in grades one through eight whose families have served or are currently serving in the military. The program combines academic instruction with enrichment activities to help students maintain their skills during the summer while creating a fun, supportive environment.

Project Pathfinder's mission extends beyond childcare. The camp exists to prevent summer learning loss while giving military families access to meaningful educational experiences that prepare students for the next school year.

"Our goal is to keep children from losing math and reading literacy skills during the summer so when school starts, they're not having to start from scratch," explained Marcel McKenzie, teacher with the Project Pathfinder Summer Camp.

THEIR TECH

- Sphero BOLT+
- Sphero BOLT accessories

THEIR GOALS

Summer learning programs face a unique challenge. Students need continued academic support, but summer camp should feel different from the school day. Camp leaders wanted a STEM experience that complemented those lessons by building problem-solving, collaboration, and critical thinking in a way that kept students engaged.

"We wanted an educational component that was engaging and fun. Something they could learn from without feeling like they were sitting through another class," said McKenzie. Because of the large age range of campgoers, the STEM activities needed to introduce younger students to foundational concepts while providing enough depth to keep older students engaged and learning.





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THEIR SOLUTION

Project Pathfinder reached out to STEM Education Works to integrate Sphero BOLT+ robotics into its daily programming.

The robotics curriculum became the camp's dedicated STEM block, complementing outdoor recreation and core academic instruction. Rather than following one rigid lesson plan, instructors adapted activities to each age group, allowing every student to participate at an appropriate level.

Younger students learned movement, sequencing, and basic programming through guided challenges. Older students advanced into coding logic, obstacle navigation, and collaborative problem solving.

McKenzie commented, "It's our fun thing. They don't know they're learning, but they are."



PROJECT PATHWAY: BUILDING A STEM EXPERIENCE THAT FEELS LIKE CAMP

Robotics quickly became one of the camp's most anticipated activities.

Students navigated obstacle courses, completed relay races, solved maze challenges, and even played robot soccer. Every activity required students to think critically before sending instructions to their robot.

Instead of immediately correcting mistakes, the instructor encouraged students to troubleshoot their own code and work together to solve problems.

THE IMPACT

The robotics program produced benefits well beyond coding.

Students practiced planning before acting, breaking complex problems into manageable steps, and thinking through the consequences of every decision. Those habits carried into other parts of the camp.

Marcel McKenzie shared that one of the camp's English teachers noticed measurable changes in student writing. Because coding required students to think through precise sequences of actions, students began writing with greater detail and stronger cause-and-effect reasoning. "Our English teacher noticed they're being much more descriptive in their writing. Coding makes them think through every step instead of assuming people know what they mean," he explained.

The program also encouraged collaboration between students. Older campers often helped younger students troubleshoot code, creating opportunities for leadership and peer learning. Perhaps most importantly, students remained highly engaged throughout the activities because the learning felt like play rather than instruction.



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PARTNERING WITH STEM EDUCATION WORKS

For Project Pathfinder, STEM Education Works delivered the right combination of exciting tech and easy-to-teach curriculum. The activities aligned with the camp's educational mission while preserving the atmosphere students expect during summer. "The kids think they're playing games, but every activity teaches them how to think differently and solve problems," McKenzie commented.

LOOKING AHEAD

Project Pathfinder views STEM as an ongoing part of its summer programming rather than a one-time activity. After successfully introducing drones in a previous year and robotics through STEM Education Works, camp leadership is already exploring future additions such as 3D printing to continue exposing students to new technologies and career pathways.

Each year builds on the last, giving students fresh opportunities to create, experiment, and solve problems while strengthening the academic skills they need when they return to school.

