



Case Study

STEMscopes Science Conducted a Multi-Week Summer Intervention Camp with a Florida School District to Help Students Address Pandemic Learning Loss

4th
Grade

55
Students

20
Instructional Days

↑18
Percentage Point
Increase

In the summer of 2021, STEMscopes Science conducted a multi-week summer intervention camp with a Florida school district. Four teachers with a total of 55 4th-grade students participated in the study in order to help students address pandemic learning loss.

“It was remarkable to see how quickly teachers caught on to using STEMscopes and how much the students relished the activities,” shared Courtney Williams, Vice President of Accelerate Learning’s School Success. “Even though the instruction was technically an intervention program, the students actively engaged and explored as if they were at a science camp.”

The teachers used a variety of tools from the STEMscopes Science curriculum, including a pre- and post-test to measure student growth on state learning standards, hands-on learning to explore scientific phenomena, game-based learning to formatively assess and reinforce knowledge and skills, and differentiation activities to meet the unique needs of each student. The Accelerate Learning team provided both the curriculum resources and training in the effective use of the STEMscopes 5E approach and constructivist lesson design. Through a joint effort of the district and Accelerate Learning, teachers were given a structured lesson plan that focused on a key objective each day where students were known to be weak; teachers used pre-selected activities from STEMscopes.

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RESULTS

Pre Average Post Average

45 **63**

Class 1 Pre Class 1 Post

48 **76**

Class 2 Pre Class 2 Post

42 **55**

Class 3 Pre Class 3 Post

43 **52**

Class 4 Pre Class 4 Post

47 **70**

Among the most powerful activities that teachers used were the hands-on, experiential learning labs. Landforms—both naming them and understanding their origin through erosion and weather—is often a challenging subject for elementary students, but in this case it was a highlight. Students created landforms using a variety of materials, getting messy and delighting in comparing their creations with those of other groups. Activities like these sparked class discussion, sharing of opinions, and creation of connections between the scientific explanations and real-world examples.

The results were powerful. On average, students jumped 18 percentage points between pre- and post-test results in just 20 instructional days. Standards such as Earth’s rotation and revolution that were almost uniformly missed by the 55 students shifted to high proficiency, increasing from 17% getting it right on the exam to 66%. This improvement was seen over and over across various learning objectives. The top two classes more than exceeded passing standards, averaging 76% on the post-test.

Ultimately, this study demonstrated that the combination of engaged students, open-minded teachers, and structured learning can move learning mountains in just a few weeks.