



STEM EXPEDITIONS® BOOST SCIENCE SCORES

Friday Institute report cites MAP scores
20 percent higher than those of control group



Pitsco Education's STEM Expeditions® program helped students achieve statistically significant results on national science tests, according to a December 2017 report from the Friday Institute for Educational Innovation at North Carolina State University's College of Education.

Sixth- and seventh-grade STEM Expeditions students at Tucker Creek Middle School in Havelock, NC, **scored 20.1 percent higher on the 2016-17 Measures of Academic Progress (MAP) science test** than did members of a control group at a nearby middle school.

“I think the results are directly related to the amount of student engagement with the content. Students know from the beginning of the Expeditions that they will be using the scientific principles they are taught to solve the lesson Essential Question, which is an engineering design challenge. Because they know that the information will be immediately valuable to them in designing their solution, they pay more attention and get more involved from the very start.”



– Tucker Creek STEM Expeditions teacher Michelle Smith

Tucker Creek Middle School

MAP Science Scores Results

PILOT GROUP	COMPARISON GROUP
46.5	26.4
*Difference in CGP Mean = 20.1	

Student academic progress was measured using the Northwest Evaluation Association (NWEA) Measures of Academic Progress (MAP) assessments. Specifically, these assessments use each student's assessment scores at multiple time points to yield a single Conditional Growth Percentile (CGP) metric for that student. This metric indicates how much the student's score improved over time compared to their peers of similar grade and age across the country. In other words, it provides a percentile of their learning progress compared to the national median (or 50th percentile).

“What shocked me was a lot of times when I used to give a test to the kids they'd pass it, but if you gave it two weeks later they forgot it. With the Expeditions, the way they're doing things hands on, the fact of doing it, building it, designing something from start to finish, seeing it get done, and then interpreting it and pulling it into everyday life, that's how to make it relevant.”



– PCMS STEM Expeditions teacher Caleb Boulware

Eighth graders at Pittsburg (KS) Community Middle School (PCMS) who completed the Expeditions as part of a blended science program showed a **statistically significant difference in growth in MAP science and reading** than did the virtual comparison group.

Pittsburg Community Middle School

Growth on MAP Performance

GOAL	STEM EXPEDITIONS STUDENTS
100%	178%

Not only did PCMS STEM Expeditions students outperform the virtual comparison group, but they also far exceeded the goal of 100 percent growth on MAP performance, with an average growth rate of 178 percent among all the school's eighth graders during the course of the school year.

STEM Expeditions and Career Expeditions are standards based and may be delivered as a single topic to a whole class or as several topics simultaneously to student pairs working through rotations. The Expeditions feature a wide range of topics from robots and rockets to food safety and flight to engineering and electricity.