



BEC *STEM Connect*™ 2015 Stakeholder Report

2015 Partners

Acumed

McKinley Elementary
Beaverton SD

BESThq/Fortis Construction

Barnes Elementary
Beaverton SD

Columbia Sportswear

Reedville Elementary
Hillsboro SD

Daimler Trucks North America

Rosa Parks Elementary
Peninsula Elementary
Portland Public Schools

ESCO

Ockley Green
Portland Public Schools

FEI

Tobias Elementary
Hillsboro SD

First Tech Credit Union

Metzger Elementary
Tigard/Tualatin SD

IBM

Beaver Acres Elementary
Chehalem Elementary
Beaverton SD

Oregon Dept. of Transportation

Four Corners Elementary
Salem-Keizer Public Schools

Portland General Electric

Bridger Elementary
Portland Public Schools

Qorvo

McKinney Elementary
Hillsboro SD

Vernier Software & Technology

Vose Elementary
Beaverton SD

About *STEM Connect*

The BEC *STEM Connect* Initiative brings together community business partners and underserved neighborhood schools to inspire interest in math and science. By generating interest, the program seeks to create a pathway to STEM careers. The focus is on 4th and 5th grade classrooms, where research reports declining interest in math and science.

Through sustainable, year over year partnerships, we hope to engage students in thinking beyond their boundaries to believe in a professional future that helps them realize their dreams.

Outcomes

STEM Connect is responsive. Feedback from all stakeholders (volunteers, teachers and students) inform real program change. We have a strong commitment to using the data we collect from our participants, understanding that they are key to continued relevancy and sustainability.

In the 2014-15 academic year, we collaborated with CRSmith Consulting to conduct an independent evaluation. Methodologies included pre/post surveys with 4th grade students, and summative surveys with teachers and volunteers. Our focus was to measure two key student outcomes: 1) an increase in math and science careers, and 2) an improved attitude toward math and science.

STEM Connect had an overall positive impact on students. The program included three classroom visits, and the return on this investment is converting some students who initially did not like math and/or science to increase their interest. The program inspired them. Ultimately, this may lead to STEM career and/or educational paths that may otherwise have gone undiscovered for these students.



***STEM Connect* 2015 Participation**

12 business partners & 14 schools

Volunteers: 118

Classrooms: 87

Students: 2,222

Special thanks to our sponsors and schools, students, teachers and volunteers for making *STEM Connect* 2015 possible!

STEM Connect 2015 Highlights

Students

Aggregate outcomes:

- ✓ 66% (of 565 students) reported being more interested in science because of the STEM program
- ✓ 46% (out of 570) reported being more interested in math because of the STEM program
- ✓ 83% of students reported that hands-on activities were interesting or very interesting
- ✓ 80% would like to have the volunteers back in class
- ✓ 79% of students reported volunteers were interesting or very interesting
- ✓ 70% of students reported presentations were interesting or very interesting

Outcomes for students who had negative or neutral attitudes:

- ✓ 23% (out of 110) with neutral or negative attitude toward math in the pre-test showed improved attitude in the post-test
- ✓ 33% (of 63 students) with neutral or negative attitude toward science in the pre-test were more interested in science because of the STEM program
- ✓ 23% of students (out of 94) who had neutral or negative responses regarding jobs in science showed an increase in interest in the post-test
- ✓ 28% (out of 160) who had neutral or negative responses regarding jobs in math showed an increase in interest in the post-test

Note: a total of 608 fourth-grade students completed the pre/post surveys. The actual number of responses varied item to item.

Volunteers and Teachers

- ✓ 95% of teachers and 98% of the volunteers rated student's level of engagement as excellent or above average.
- ✓ Teachers (100%) and volunteers (91%) reported working relationship between themselves and volunteers was either very positive or positive.

Other volunteer and teacher outcomes:

- Regular contact between teachers and STEM business partners
- Business partners became part of the school community
- 100% of volunteers and teachers reported they felt that *STEM Connect* had a positive impact on students.

Students speak . . .

"I feel more interested because you get to have more time experimenting."

"I feel more interested in science because you get [to] see stuff inside a bug."

"I love math way more now."

"You made me love math 100%."

"I want math for my job. It's just hard, a little."

"I would love to have a job in science when I grow up."

"It makes me feel that in science I can do better than I think I can."

"This program is fun, please keep doing it."

"I feel more interested because they teach it very kindly and in a fun way."

"I feel much better about math then I used to be."

"I feel more interested [in math] because we did the marble run."

From volunteers and teachers . . .

"It was neat to see the kids go from almost no interest in STEM on the first visit, to considerable interest by the last visit."

"It was great to see the excitement of the kids after they had successfully built/ implemented their project."

"My students enjoyed the hands on STEM activities and were entirely engaged. We did three designs this year and were very positive with the students...simple, fun, educational and students realized they could design one at home!"

"... the most powerful part was the fact that students got to make a design, test it, and then were able to go back to redesign any flaws they encountered! They got to see that learning comes from mistakes and that they are tools."

"I have a new respect for teachers! (Teacher) pours their heart into the class and you can tell cares a lot about the students. I was honored that I was able to be a part of that."