



BEC *STEM Connect*™ 2016 Stakeholder Report

2016 Partners

Acumed

McKinley Elementary (Beaverton)

BESThq/Fortis Construction

Barnes Elementary (Beaverton)

Black & Veatch

Durham Elementary (Tigard)

Cinder Staffing

Free Orchards Elem. (Hillsboro)

Columbia Sportswear

Reedville Elementary (Hillsboro)

Daimler Trucks North America

Rosa Parks Elementary (Portland)

Peninsula Elementary (Portland)

Bridgeport Elementary (Tualatin)

Eaton Corporation

Tualatin Elementary (Tualatin)

ESCO

Ockley Green (Portland)

FEI

Tobias Elementary (Hillsboro)

First Tech Credit Union

Metzger Elementary (Tigard)

Glumac/

Oregon Dept. of Transportation

Boise-Eliot Elementary (Portland)

IBM

Beaver Acres Elem. (Beaverton)

Oregon Dept. of Transportation

Four Corners Elementary (Salem)

Portland General Electric

Bridger Elementary (Portland)

Qorvo

McKinley Elementary (Hillsboro)

Vernier Software & Technology

Vose Elementary (Beaverton)

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 use the data we collect from our participants, understanding that they are key to continued relevancy and sustainability.

In the 2015-16 academic year, we collaborated with CRSmith Consulting to conduct an independent evaluation. Methodologies included pre/post surveys with 4th grade students, focus groups with 5th graders 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* 2016 Participation**

16 business partners & 18 schools

Volunteers: 167

Classrooms: 115

Students: 2,957

Special thanks to our sponsors and schools, students, teachers and volunteers for making *STEM Connect* 2016 possible!

STEM Connect 2016 Highlights

Students

Aggregate outcomes:

- ✓ 67% (of 340 students) reported being more interested in science because of the STEM program
- ✓ 46% (out of 340) 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
- ✓ 78% of students reported volunteers were interesting or very interesting
- ✓ 74% of students reported presentations were interesting or very interesting

Outcomes for students who had negative or neutral attitudes:

- ✓ 30% (out of 64) with neutral or negative attitude toward math in the pre-test showed improved attitude in the post-test
- ✓ 40% (of 20 students) with neutral or negative attitude toward science in the pre-test were more interested in science because of the STEM program
- ✓ 78% of students (out of 46) who had neutral or negative responses regarding jobs in science showed an increase in interest in the post-test
- ✓ 64% (out of 86) who had neutral or negative responses regarding jobs in math showed an increase in interest in the post-test

Note: a total of 340 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% volunteers rated student's level of engagement as excellent or above average.
- ✓ 92% of teachers and 83% of 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
- Volunteers and teachers reported they felt that *STEM Connect* had a positive impact on students.

Students speak . . .

- "I didn't enjoy math but now I love math."*
- "Math is better than I thought it would be."*
- "Math is fun because it makes me learn."*
- "I love math that I can do math all day."*
- "[Math] makes me think more."*
- "I am starting to like science."*
- "I can use my imagination in different ways."*
- "I have always liked science and I thought this was amazing!"*
- "I want STEM [volunteers] to keep coming to our class so I can be more interested."*
- "Science is fun and experiments are better."*
- "Science was boring sometimes but now I like science."*
- "They made science really interesting and fun . . . I want them to stay more."*
- "I felt happy when the volunteers came here."*

From volunteers and teachers . . .

- "I have a couple of female students interested in going into engineering now because of the visits."*
- "It was really great to see kids enjoying working together to solve problems. A few [students] that were not good at cooperation stood out."*
- "It was good for me to see how [the STEM volunteers] left the directions for the students open ended so the kids were forced to work together to figure out as a group the best way to create their marble roll design."*
- The kids were amazingly engaged and experimented wildly using a lot of creativity."*
- At the end of our third and final visit, a student raised their hand and asked, "Can I be an Engineer like you one day?"*
- "Our volunteers were terrific! All three were originally from Mexico and it was terrific... particularly [for] my Latin American students to see role models of color. Thank you!"*
- "The kids were very excited to see us each time, and were very enthusiastic about the STEM activities."*