

SUPERINTENDENT'S POST, NOVEMBER 2016
By Chuck McCauley | Bartlesville Public Schools

In early November 228 middle school students, along with parents, siblings, and other students from the area, attended the first annual Hands On Minds On Math & Science Night held at Madison Middle School.

Students rotated across over two dozen interactive stations, manned by volunteers from ConocoPhillips, the OSU student chapter of the American Association of Petroleum Geologists, and the Oklahoma Energy Resources Board. The students learned about STEM (science, technology, engineering, and math) fields as well as career options in the energy industry. The stations included coding, seismic activity, acid tests, stream tables, and rock samples along with math and engineering-themed games. ConocoPhillips, Truity Credit Union, and other groups were instrumental in making this opportunity possible, coordinating with our talented teachers and staff.



Why is STEM significant? According to the U. S. Department of Commerce, STEM occupations are growing at 17%, while other occupations are growing at 9.8%. Our 21st century globally-linked economy has increased the demand for STEM skills to a top priority in society, raising the bar in STEM education far beyond what was acceptable in the past.

The Bartlesville Public School district is helping students develop those STEM skills. In addition to our excellent science and math courses, we currently offer five STEM-focused courses at the high school and six STEM-focused courses at each of our middle schools. These courses are offered in our Phillips 66 Innovation Labs, funded by a \$1.7 million grant from Phillips 66.

This year, we added a computer science course at the high school and doubled the number of STEM courses at each of our middle schools. These changes and additions greatly impacted the enrollment numbers. In 2015-16, we had 600 secondary students enrolled in STEM-focused courses. Now, the enrollment has more than doubled with 1,376 students enrolled in STEM today.

BPSD will soon pilot these types of experiences in our elementary schools. Plans are underway to expand offerings through the national Project Lead the Way (PLTW) program to our elementary students through PLTW Launch.

The PLTW Launch curriculum is designed for students from kindergarten through fifth grade. They already have the imaginative skills and qualities of great designers, and the program engages them in hands-on activities and projects. Students will use structured approaches, such as the engineering design process, and employ critical thinking. The students apply STEM knowledge, skills, and habits of mind, learning that it is okay to take risks and make mistakes.

Extending PLTW into the lower grades will give our younger BPSD students the opportunity to begin thinking about STEM career pathways at an earlier age and provide our students with the building blocks for a solid foundation for secondary STEM courses and beyond.

I am grateful for the leadership of Phillips 66, ConocoPhillips, and Truity Credit Union for their support for STEM. Given this time of budget constraints, I am hopeful that various community partners will help us extend STEM to our elementary schools.