

# Math problems are a problem for job-seekers, employers say

April 4 2013, by Renee Schoof

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Before job-seekers fill out an application for work making foam products for the aerospace industry at General Plastics Manufacturing Co. in Tacoma, Wash., they have to take a math test. Eighteen questions, 30 minutes, and using a calculator is OK.

They are asked how to convert inches to feet, read a tape measure and find the density of a block of foam (mass divided by volume).

Basic middle school [math](#), right?

But what troubles General Plastics executive Eric Hahn is that although the company considers only prospective workers who have a [high school education](#), only one in 10 who take the test pass. And that's not just bad luck at a single factory or in a single industry.

Hahn, vice president of organizational development, said that the poor scores on his company's [math test](#) have been evident for the past six years. He also sits on an aerospace workforce training committee and said that most other Washington state suppliers in his industry have been seeing the same problem.

"You could think that even for production, do you really need to know math?" said Jacey Wilkins, a spokeswoman for the Manufacturing Institute, an affiliate of the National Association of Manufacturers. "But the truth is, you do, because these jobs are incredibly complex and integrate multiple functions and systems."

Indeed, in working with machinery and making products with precision, "people really do need a basic understanding of math," she said.

But math has been a problem.

The United States ranks below average in math compared with other developed countries and regions participating in the Program for International Student Assessment test.

The National Math and Science Initiative, a group working to improve student performance in science, technology, engineering and math, known as the STEM subjects, noted, as well, that 54 percent of [high school](#) graduates aren't ready to go on in math. The figure is based on students who took ACT's "college and career readiness" exam in 2012.

As the economy begins to perk up and businesses start to hire, a lack of basic knowledge about mathematics could present a problem to people looking for work.

"Manufacturers are willing to train people about the specifics of their machines and technology," said Linda Nguyen, CEO of Work Force Central, a partnership of government, business, education and community organizations that trains workers in Tacoma and surrounding Pierce County. "But they can't afford to hire someone who needs to relearn basic math."

Educators are aware of what manufacturers like General Plastics face. They're looking for ways to make math relate to the real world so students will grasp why it's necessary and stick with it. Some want to change the way it's taught.

"It's really been rote memorization," said Dave Yanofsky, director of media and youth development at ConnectEd: The California Center for

## College and Career.

The center advocates for what it calls "linked learning" in high school, a combination of academics, technical education and work experience. It has developed a middle-school math curriculum that uses projects and encourages collaboration.

Linda Gojak, president of the National Council of Teachers of Mathematics, likens the traditional style of teaching math to "practicing the piano," because students are told to practice until they can finally do it. But her group is trying to "help teachers teach mathematics so kids make sense of what they're doing and it really does stick beyond what they learn in class."

In California, a pilot project designed to make classroom learning more relevant will include 20 school districts in the Sacramento area, Porterville in the Central Valley and other districts around the state.

Math learning also will change with the Common Core standards, a state-led effort to set educational standards in math and English for kindergarten through high school. Forty-five states have adopted them.

They'll match with what students need to know for success in college and jobs, said Sam Houston, president and CEO of the North Carolina Science, Math and Technology Education Center in Research Triangle Park near Raleigh, and a veteran North Carolina public school administrator. North Carolina is among the states that have adopted the Common Core.

"In the hands of a trained professional," Houston said, "the Common Core should give everyone a better means to answer the question, 'Why do I need to know this?'"

For manufacturers like Hahn, changes in teaching math can't come soon enough.

"Manpower training for manufacturing is a critical issue right now," he said. "The development of highly skilled workers is essential if we are to produce good products and grow our industry."

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Citation: Math problems are a problem for job-seekers, employers say (2013, April 4) retrieved 11 May 2024 from <https://phys.org/news/2013-04-math-problems-problem-job-seekers-employers.html>

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