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## 48th Is Not a Good Place

The National Academies, the country's leading advisory group on science and technology, warned in 2005 that unless the United States improved the quality of math and science education, at all levels, it would continue to lose economic ground to foreign competitors.

The situation remains grim. According to a follow-up report published last month, the academies found that the United States ranks 27th out of 29 wealthy countries in the proportion of college students with degrees in science or engineering, while the World Economic Forum ranked this country 48th out of 133 developed and developing nations in quality of math and science instruction.

More than half the patents awarded here last year were given to companies from outside the United States. In American graduate schools, nearly half of students studying the sciences are foreigners; while these students might once have spent their careers here, many are now opting to return home.

In a 2009 survey, nearly a third of this country's manufacturing companies reported having trouble finding enough skilled workers.

The academies call on federal and state governments to improve early childhood education, strengthen the public school math and science curriculum, and improve teacher training in these crucial subjects. It calls on government and colleges to provide more financial and campus support to students who excel at science.

The report sets a goal of increasing the percentage of people with undergraduate degrees in science from 6 percent to 10 percent. It calls for the country to quickly double the number of minority students who hold science degrees — to 160,000 from about 80,000.

Too often, science curriculums are grinding and unimaginative, which may help explain why more than half of all college science majors quit the discipline before they earn their degrees. The science establishment has long viewed a high abandonment rate as part of a natural winnowing.

The University of Maryland, Baltimore County — one of the leading producers of African-American research scientists in the country — rejects that view. It has shown that science and engineering students thrive when they are given mentors and early exposure to exciting, cutting-edge laboratory science. Other colleges are now

trying to emulate the program.

Congress has an important role to play. It can start by embracing the academies' call to attract as many as 10,000 qualified math and science teachers annually to the profession. One sound way to do that — while also increasing the number of minority scientists — is to expand funding for programs that support high-caliber math and science students in college in return for their commitment to teach in needy districts.