

STEM2015

Double the number of Science, Technology, Engineering and Mathematics (STEM) graduates by 2015

White Paper

The Ohio Academy of Science

The Ohio Academy of Science commends the Business Roundtable and associated national groups for *Tapping America's Potential*, the recent report that established the bold and measurable goal to **double the number of science, technology, engineering and mathematics graduates by 2015**. To meet this goal Ohio colleges and universities must graduate 16,660 science and engineering students in 2015 based on 2003 data of 8,330 graduates (2006 *National Science & Engineering Indicators*).

The Academy also endorses five other recommendations of *Tapping America's Potential*:

1. **Build public support** for making improvement in science, technology, engineering and mathematics (STEM) performance a national priority.
2. **Motivate U.S. students and adults**, using a variety of incentives, to study and enter science, technology, engineering and mathematics careers, with a special effort geared to those in currently underrepresented groups.
3. **Upgrade K–12 mathematics and science teaching** to foster higher student achievement, including differentiated pay scales for mathematics and science teachers.
4. **Reform visa and immigration policies** to enable the United States to attract and retain the best and brightest science, technology, math and engineering students from around the world to study for advanced degrees and stay to work in the United States.
5. **Boost and sustain funding for basic research**, especially in the physical sciences and engineering.

To help achieve the commendable goal and recommendations of *Tapping America's Potential*, the Academy urges the Business Roundtable's CEO's and the CEOs of the associated national technology-oriented groups, many of whom have analogous Ohio-based organizations, to **focus leadership and support to expand grassroots level programs**, in place and to be developed by The Ohio Academy of Science and other organizations.

Tapping America's Potential asserts that business leaders have united toward the report's broad goal and recommendations. They will work with the administration, members of Congress, governors, educators, colleges and universities, and member companies to identify specific legislative, regulatory, programmatic and corporate philanthropic vehicles to adopt these recommendations. Further, they will provide the leadership needed to help the American public realize the dimensions of the problem and the urgent need to implement solutions.

Through a spate of recent reports national organizations, including the National Academies, the American Association for the Advancement of Science (AAAS), Project Kaleidoscope and the Business Roundtable have urged improvements in science and mathematics education for effective citizenship and for careers in science, technology, engineering, and mathematics, the so-called STEM careers. Smart strategies for economic development, such as Ohio's Third Frontier program, require a scientifically literate population essential for competition in a new world that is "flat" politically, economically, culturally and scientifically.

Since 1891, The Ohio Academy of Science has worked to improve instruction in science; since 1940, the Academy has maintained a Junior Academy Council to discover and foster ability and interest in science and mathematics among students in grades 5-12. Because of their participation in State, district and local science days and others activities, the Academy and other organizations annually identify thousands of high-achieving science students in the current 7th grade and in earlier grades who are within the cohort of potential college graduates of 2015. Ohio's future college students, scientifically literate citizens and STEM graduates and employees are reflected in the faces of the more than 1,000 State Science Day students, thousands of students at district and local science days and in other youth science opportunities such as 4-H, FFA, Science Olympiad, MATHCOUNTS, JETS/TEAMS, Intel ISEF, Discovery Youth Science Challenge, Intel Science Talent Search and other activities.

Based on a policy resolution approved April 21, 2006 by Trustees of The Ohio Academy of Science.

References:

<http://www.ohiosci.org>

<http://www.heartlandscience.org>

<http://www.tap2015.org/>

<http://www.businessroundtable.org/tap/>

<http://www.nsf.gov/statistics/seind06/pdf/c08.pdf>

<http://www.thomasfriedman.com/worldisflat.htm>

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Fostering curiosity, discovery and innovation to benefit society

About The Ohio Academy of Science

The Ohio Academy of Science strives to be the leading organization in Ohio *to foster curiosity, discovery, and innovation* and to unite all who value education, science, engineering, technology, and their applications, for the benefit of society. The Academy welcomes all interested in science—a researcher, a teacher, a corporate executive, an elected public official, an engineer, a student, a parent, or any citizen—to consider The Ohio Academy of Science as their organization. Members and volunteers are the principal source of inspiration, intellectual capital, volunteers and financial support. See the Academy's website at <http://www.ohiosci.org>