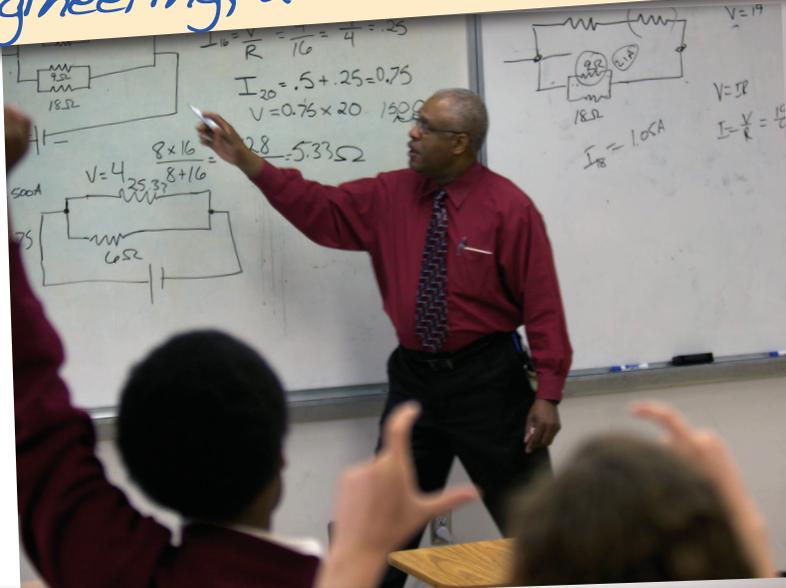




# Supporting Science, Technology, Engineering, and Mathematics Education

Supporting STEM



## Reauthorizing the Elementary and Secondary Education Act

*I'm committed to moving our country from the middle to the top of the pack in science and math education over the next decade.*

—President Barack Obama

**I**n the 21st century, graduating from high school prepared for postsecondary education and careers means having a solid grounding in the science, technology, engineering, and mathematics (STEM) fields. Mastery of mathematics, science, and technology is no longer only for future scientists and engineers; it is essential preparation for all students. Despite an overall increase in postsecondary education enrollment for over a decade, the percentage of STEM college graduates has declined. While the proportion of K–12 students who achieve at the proficient level or above on the National Assessment of Educational Progress (NAEP) mathematics exam is increasing, achievement gaps between whites and minorities remain.

America needs to increase the number of students pursuing STEM fields in their academic studies and careers, and improve preparation for the next generation of engineers, scientists, mathematicians, and technicians. Since the beginning of the 20th century, average per-capita income in the United States has grown more than sevenfold, and science and technology account for more than half of this growth; the world today's students will inherit will be one defined to an even greater degree by science and technology.



The Obama administration's *Blueprint for Reform of the Elementary and Secondary Education Act* provides over \$1 billion in grants to states, school districts, and nonprofits to support a complete education in high-need schools, including \$300 million specifically for competitive STEM grants.

### *What we're proposing*

- ▶ **Targeted supports for teachers and schools.** The proposal includes \$300 million in competitive grants to states with which to provide subgrants to high-need districts for improving STEM education, aligning it with standards that help ensure college and career readiness.
- ▶ **Fostering innovation.** The proposal promotes innovation—creating and scaling-up effective practices to help students succeed. In the president's fiscal year 2011 budget, \$150 million of the Investing in Innovation fund will be focused on STEM projects.
- ▶ **Enhancing partnerships.** The proposal supports partnerships between districts and university mathematics and science departments, STEM-focused businesses, and other outside partners with STEM expertise to advance teaching, learning, and leading in STEM subject areas.

- ▶ ***Improving assessments.*** The proposal will invest in the development of improved assessments, including those in the STEM subjects. Improvement will focus on the measurement of students' growth and their mastery of higher-order skills. These new assessments also will measure students' complex problem-solving and analytical skills.
- ▶ ***Other subjects in accountability systems.*** States will be allowed to incorporate science and subjects in addition to English language arts and mathematics in their accountability systems. Under this framework, schools and districts will be held responsible for providing students with a broader, high-quality education beyond the narrow focus of the *No Child Left Behind Act*.
- ▶ ***Recognition and rewards.*** Great teachers, including STEM teachers, will be recognized and rewarded with advancement opportunities and additional compensation.
- ▶ ***Strengthening preparation programs.*** To ensure that more prospective teachers, including STEM teachers, have access to high-quality preparation programs, the president's budget proposal will double the federal funding for such programs. The *Blueprint for Reform* will ask states to hold teacher preparation programs accountable for preparing their graduates to succeed in the classroom.
- ▶ ***Relevant professional development and collaboration time.*** Funding for districts to implement professional development that is relevant to student, teacher, and school needs has helped to provide teachers the knowledge and skills that help them improve their classroom practice, including developing content knowledge in STEM fields. The proposal will provide more support for time for teacher collaboration, mentoring, and working together to improve practice.

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