



U.S. DEPARTMENT OF EDUCATION



Strengthening Education: Meeting the Challenge of a Changing World

Innovation fuels the American quality of life, and innovation's wellspring is education. Since 2001, President Bush has made innovation and education top priorities, and the President worked with Congress to pass the most important reform in decades, the No Child Left Behind Act. The law has brought high standards and accountability to our nation's public schools and is working to raise student reading and math achievement in the early grades. But more needs to be done to ensure that students graduate from high school with the skills they need to be successful in college or the workforce. Employers increasingly seek workers with "pocket protector" skills – practical problem-solvers across the world fluent in today's technology. To meet this challenge and improve our economic security and national security, America must continue to improve and innovate the nation's schools.

The Need for an Increased Focus on Math and Science

- In 1983, the landmark *A Nation at Risk* report recommended that high school students be required to take a minimum of three years of math and three years of science to graduate. Yet today, only 22 states and the District of Columbia require at least this amount to graduate in the class of 2006.
- According to the College Board, there were nearly 500,000 US high school students in 2004 whose PSAT score indicated that they were ready for AP Calculus but who did not take the course. AP students are much more likely than their peers to graduate from college in four years or less.
- America's share of the world's science and engineering doctorates is predicted to fall to 15 percent by 2010.
- According to the Bureau of Labor Statistics, jobs requiring science, engineering or technical training will increase 24 percent between 2004 and 2014 to 6.3 million.
- An applicant for a production associate's job at a modern automobile plant has to have the math skills equivalent to the most basic achievement level on the National Assessment of Educational Progress (NAEP) math test to meet company proficiency requirements, a threshold that almost half of 17-year-olds do not meet.

Meeting the Challenge: President Bush's 2006 Education Agenda

- **The American Competitiveness Initiative will commit \$136 billion over the next ten years to emphasize math instruction from the earliest grade levels and ensure that high schools offer more challenging coursework. The Department of Education's FY 2007 request for math and science initiatives is a \$326 million (51.3 percent) increase over the 2006 amount. Programs will include:**
 - A *National Math Panel* of experts to empirically evaluate the effectiveness of various approaches to teaching math, thereby creating a scientific research base to improve math instruction and guide the Math Now programs;
 - *Math Now for Elementary School Students*, a program to promote scientifically based research and promising practices to improve math instruction and prepare students for more rigorous math courses in later grades;
 - *Math Now for Middle School Students* to diagnose the deficiencies of students who lack math proficiency and provide intensive scientifically based interventions to enable them to take and pass algebra;
 - *Evaluation of Federal Science, Technology, Engineering and Math (STEM) programs* to optimize the federal investment in elementary and secondary math and science programs by applying No Child Left Behind's principles of high standards and data-driven accountability to federal math and science education programs. President Bush supports several initiatives to increase the enrollment and retention of STEM students in the physical sciences;

- *Expanded Advanced Placement (AP) Incentive Program* with the goal of training 70,000 additional AP and International Baccalaureate (IB) math, science and critical language teachers; drastically increasing the number of students taking AP-IB courses, and tripling the number of students passing AP-IB tests to 700,000 by 2012;
 - *Adjunct Teacher Corps* to encourage 30,000 professionals to become adjunct high school teachers in math and science by 2015; and
 - *Science Assessments added to NCLB Accountability* to ensure students are learning the necessary content and skills to be successful in the 21st century workforce.
- **The High School Reform Initiative will bring high standards and accountability to high schools by aligning their academic goals and performance with the No Child Left Behind Act, including:**
- Targeted interventions to improve the performance of students at risk of failing to meet state standards; and
 - Expanded high school assessments to help increase accountability and meet the needs of at-risk students.
- **Other Math and Science Initiatives include:**
- *Academic Competitiveness* grants for college students completing a rigorous high school curriculum and *SMART Grants* for college juniors and seniors studying math, science, or critical need foreign languages.
 - *Expanded Teacher Loan Forgiveness* offers up to \$17,500 (up from \$5,000) in loan forgiveness for qualified math, science and special education teachers serving in challenging, low-income schools and communities.
- **The National Language Security Initiative** will address our shortage of people who speak languages critical to our national security and global competitiveness by: encouraging earlier and stronger coursework in critical need foreign languages from kindergarten through postsecondary education; increasing proficiency among all speakers; and providing incentives for government service and teaching critical need foreign languages.