

THE WHITE HOUSE

President Obama's Plan to Win the Future by Preparing 100,000 World-Class Math and Science Teachers

In 2009, President Obama set an ambitious goal: to move U.S. students from the middle to the top of the pack in math and science achievement over the next decade. In the State of the Union, the President called for a new effort to, over the next decade, prepare 100,000 science, technology, engineering, and math (STEM) teachers with strong teaching skills and deep content knowledge. As a crucial component of winning the future, the President's Budget will propose an investment of \$100 million to prepare STEM teachers.

- **Prepare our best to become STEM teachers:** The President's plan will encourage more of the nation's top STEM graduates to become teachers, through effective pathways and preparation programs to that will help them enter into the teaching profession.
- **Immediate investments to scale up effective programs and train at least 10,000 STEM teachers per year:** The President's plan will invest \$80 million to expand promising and effective models of teacher preparation, which will help train 10,000 more effective STEM teachers per year.
- **Fund \$20 million in research on teacher preparation:** The President's plan will invest \$20 million in research that will improve our understanding of how to best recruit, prepare and retain the best STEM teachers.

The President's Math and Science Teachers Initiative

The President's Budget will support a key recommendation from his Council of Advisors on Science and Technology (PCAST) to improve STEM education. The President's plan has three elements:

- **Preparing top STEM undergraduates to become teachers:** The President's plan is designed to prepare undergraduates that are pursuing STEM degrees to become teachers. Being a great STEM teacher requires both deep content knowledge and strong teaching skills. Teachers need to have enough content knowledge to link STEM to compelling real world issues, model the process of scientific investigation, effectively address student misconceptions, and help their students learn to reason and solve problems like scientists and engineers.
- **Training an additional 100,000 effective STEM teachers over the next 10 years:** The Department of Education will invest \$80 million to expand promising and effective models of teacher preparation. For example, some models allow students to simultaneously earn both a STEM degree and a teaching certificate, providing undergraduates with early and intensive field experiences in the classroom. This

investment will help prepare an additional 100,000 high quality STEM teachers over the next 10 years.

- **Investing in research on teacher preparation:** The National Science Foundation will devote \$20 million to support research on teacher preparation. This will improve our understanding of what makes a great STEM teacher, and how to best train, support, and retain highly effective STEM teachers.

Building on Progress

The leadership of the Obama Administration in improving STEM education has already made a difference in schools across the country.

- **The President made STEM a priority as part of the Administration’s \$4 billion Race to the Top competition, fueling local innovation:** States that applied for Race to the Top were encouraged to develop a comprehensive strategy to improve achievement and provide rigorous curricula in STEM subjects; partner with local institutions, businesses and museums; and broaden participation of women and girls and underrepresented groups. The winning states are taking decisive actions to put STEM at the center of their education reform efforts. For example, Maryland is increasing the number of STEM teachers and developing a new STEM teacher preparation pathway for elementary school teachers to engage younger students. North Carolina is investing in 10 STEM “anchor schools” that will develop an exemplary curriculum connected to regional science and technology assets, such as biotechnology or aerospace. Rhode Island is supporting their school turnaround strategies with “STEM distinguished educators.” And Delaware is developing a residency program to prepare non-traditional candidates with strong STEM content knowledge who chose to enter into teaching from other careers.
- **The President’s “Educate to Innovate” campaign has resulted in over \$700 million in financial and in-kind support for STEM programs:** The President’s “all hands on deck” call to improve STEM education has galvanized industry, universities, foundations, and science and engineering professionals to do more. The private sector is responding not just with financial support, but also with commitments that take advantage of their core competencies and the skills and passion of their employees. Over 100 CEOs have come together to launch *Change the Equation*, a historic effort to scale up effective models for improving STEM education. The President has also personally helped raise the visibility of STEM by holding the first ever White House Science Fair, meeting with young Americans who are developing cancer therapies, water purification systems, and robotic wheelchairs.