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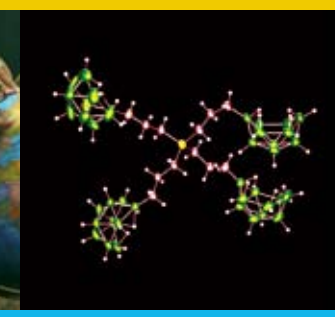

Math and Science Partnership Program

Strengthening America by advancing academic achievement in mathematics and science

National Science Foundation

Directorate for Education and Human Resources
National Science Foundation
http://www.nsf.gov

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About the National Science Foundation

Created by Congress in 1950, the National Science Foundation (NSF) is the steward of America's science and engineering enterprise. The Foundation's role in discovery, learning, and innovation is that of a catalyst, seeking out and funding the best ideas and most capable people, and making it possible for them to pursue new knowledge, discoveries, and innovation.

As an independent federal agency, NSF is tasked with keeping the United States at the leading edge of discovery in areas from astronomy to zoology. Central to that mission is supporting science and engineering education at all levels, so that today's revolutionary work will also inform the training of tomorrow's top scientists and engineers.

The Math and Science Partnership (MSP) program is one way NSF strives to strengthen America by advancing academic achievement in mathematics and science.

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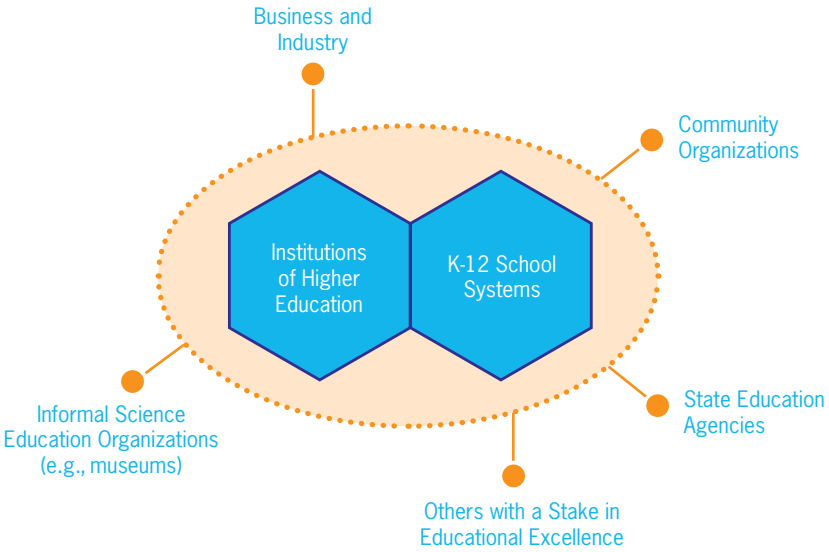
The Math and Science Partnership Program at NSF—An Overview

The Math and Science Partnership program at NSF responds to a growing national concern — the educational performance of U.S. children in mathematics and science.

Through MSP, NSF awards competitive, merit-based grants to teams composed of institutions of higher education, local K-12 school systems, and their supporting partners.



These partnerships develop and implement pioneering ways of advancing mathematics and science education for students. They bring innovation, inspiration, support, and resources to educators and students in local schools, colleges, and universities.

Participating in MSP benefits the partner organizations as well. Active partners cultivate and enhance their own strengths as they contribute to their MSP teams. And, their efforts result in better prepared students, and, ultimately, a better prepared American workforce.

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What Makes MSP Exceptional

The right people…

MSP partnerships concentrate the varied skills of top educators; academicians in science, technology, engineering, and mathematics; and leaders of business and industry.

Using and developing evidence…

Partnerships must base their work on educational strategies that have been shown to be effective. And they fuel the work of future educators by studying and evaluating their own efforts, and sharing what they learn.

And aiming for large-scale educational change that matters.

When MSP teams talk about "advancing academic achievement in mathematics and science," they are literally talking about transforming institutions across the entire spectrum of education — from elementary schools to universities.

> *"MSP partnerships are made up of people committed to improving how we educate all of our students. We realize that, to be successful, we must also change ourselves. It is this process of advancement for both our systems and the very people within them that enables MSP to find and implement the best ways to educate our country's young mathematics and science students."*
>
> – George "Pinky" Nelson, Principal Investigator, North Cascades and Olympic Science Partnership
> Director, Science, Mathematics, and Technology Education, Western Washington University
> Former NASA Astronaut

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MSP Goals

MSP serves students and educators by emphasizing strong partnerships that tackle local needs and build grassroots support to:

- Enhance schools' capacity to provide challenging curricula for all students and encourage more students to succeed in advanced courses in mathematics and the sciences;
- Increase the number, quality and diversity of mathematics and science teachers, especially in underserved areas;
- Engage and support scientists, mathematicians, and engineers at local universities and local industries to work with K-12 educators and students;
- Contribute to a greater understanding of how students effectively learn mathematics and science and how teacher preparation and professional development can be improved; and
- Promote institutional and organizational change in education systems — from kindergarten through graduate school — to sustain partnerships' promising practices and policies.

MSP Structure and Composition

Four components make up the MSP program.

- **Comprehensive Partnerships** implement change across the K-12 continuum in mathematics, science, or both.
- **Targeted Partnerships** focus on improved student achievement in a narrower grade range or disciplinary focus in mathematics and/or science.
- **Institute Partnerships** develop mathematics and science teachers as school- and district-based intellectual leaders and master teachers.
- **Research, Evaluation, and Technical Assistance (RETA)** activities assist partnership awardees in the implementation and evaluation of their work.

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MSP Partnerships State-by-State

For contact information and additional details about MSP, each partnership, and the Research, Evaluation, and Technical Assistance Projects that assist them, visit **www.mspnet.org.**

State	Lead Partner	Project Title	Type of Partnership Targeted T Comprehensive C Institute I	Year First Funded
AL	Auburn University	Transforming East Alabama Mathematics (TEAM–Math) (http://ea.mspnet.org/ or http://team-math.net/)	T	2003
	Birmingham – Southern College	The Greater Birmingham Mathematics Partnership: Building Communities of Learners and Leaders in Middle School Mathematics (http://gbmp.mspnet.org or www.bsc.edu/gbmp)	T	2004
AZ	Arizona State University	Project Pathways: Opening Routes to Math and Science Success for All Students (http://pp.mspnet.org)	T	2004
CA	University of California Riverside	Mathematical Achievement and Collaboration for Teachers and Students (ACTS) (http://mathacts.mspnet.org or http://mathacts.ucr.edu)	T	2002
	San Francisco State University	REvitalizing ALgebra (REAL) (http://real.mspnet.org or http://math.sfsu.edu/hsu/msp/index.html)	T	2002
	University of California Irvine	FOCUS: Faculty Outreach Collaborations Uniting Scientists, Students and Schools (http://focus.mspnet.org)	C	2002
	California State University, Fullerton	Teachers Assisting Students to Excel in Learning Mathematics (TASEL–M) (http://taselm.mspnet.org or http://taselm.fullerton.edu)	T	2002
	Palo Alto Unified School District	Partnership for Student Success in Science (PS^3) (http://ps3.mspnet.org or http://www.pscubed.org)	T	2003

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State	Lead Partner	Project Title	Type of Partnership Targeted T Comprehensive C Institute I	Year First Funded
CO	University of Colorado at Denver and Health Sciences Center	Rocky Mountain Middle School Math Science Partnership: 15 Months to Highly Qualified (http://mms.mspnet.org or http://rmmsmsp.cudenver.edu)	T	2004
FL	Florida Atlantic University	Standards Mapped Graduate Education and Mentoring (http://smgem.mspnet.org or http://www.math.fau.edu/Teacher/MSP)	I	2004
GA	University System of Georgia	Partnership for Reform in Science and Mathematics (PRISM) (http://prism.mspnet.org or http://www.gaprism.org)	C	2003
IN	Indiana University	Indiana University – Indiana Mathematics Initiative Partnership (http://iu-imi.mspnet.org or http://www.indiana.edu/~iucme)	T	2002
KY	University of Kentucky	Appalachian Mathematics and Science Partnership (http://appalachian.mspnet.org or http://www.appalmsp.org)	C	2002
MA	Boston University	Focus on Mathematics (http://fom.mspnet.org or http://www.focusonmath.org)	T	2003
	Tufts University	The Fulcrum Institute for Education in Science (http://fulcrum.mspnet.org or http://fulcrum.tufts.edu)	I	2004
	University of Massachusetts Boston	Boston Science Partnership (http://bsp.mspnet.org)	T	2004
MD	University System of Maryland	Vertically Integrated Partnerships K–16 (VIP K–16) (http://vipk16.mspnet.org or http://www.scienceinquiry.org)	T	2002
	University of Maryland Baltimore County	UMBC–BCPS STEM Project (http://superstem.mspnet.org)	C	2002
MI	Michigan State University	Promoting Rigorous Outcomes in Mathematics/ Science Education (PROM/SE) (http://promse.mspnet.org or http://www.promse.msu.edu/)	C	2003
MO	Washington University	St. Louis Inner Ring Cooperative (SIRC): Intervention Case Studies in K–12 Math & Science (http://sirc.mspnet.org or http://www.so.wustl.edu/science_outreach/partners/mspabout.html)	T	2002

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State	Lead Partner	Project Title	Type of Partnership Targeted T Comprehensive C Institute I	Year First Funded
NC	University of North Carolina, General Administration Office	North Carolina Partnership for Improving Mathematics and Science (NC–PIMS) (http://ncpims.mspnet.org/ or http://ncpims.northcarolina.edu)	C	2002
	Duke University	Teachers and Scientists Collaborating (TASC) (http://tasc.mspnet.org or http://tasc.pratt.duke.edu)	T	2002
NE	University of Nebraska – Lincoln	Math in the Middle Institute Partnership (http://mim.mspnet.org or http://scimath.unl.edu/MIM/mimgrant.html)	I	2004
NJ	Rutgers University New Brunswick	New Jersey Math Science Partnership (http://nj.mspnet.org/ or http://njmsp.rutgers.edu)	C	2002
	Merck Institute for Science Education	Consortium for Achievement in Mathematics and Science (http://consortium.mspnet.org)	T	2003
	Institute for Advanced Study	Math Science Partnership Project: PD^3 (http://iaspc.mspnet.org or http://www.admin.ias.edu/ma/current/mspp.php)	I	2003
NY	SUNY College at Brockport	SUNY–Brockport College and Rochester City (SCOLLARCITY) Math and Science Partnership: Integrative Technology Tools for Preservice and Inservice Teacher Education (http://scollarcity.mspnet.org or http://www.brockport.edu/cmst)	T	2002
	University of Rochester	Deepening Everyone's Mathematics Content Knowledge: Mathematicians, Teachers, Parents, Students & Community (http://dmc.mspnet.org/)	T	2002
	Hofstra University	The MSTP Project: Mathematics Across the MST Curriculum (http://mstp.mspnet.org or http://www.hofstra.edu/Academics/SOEAHS/tec/tec_mstp.cfm)	T	2003
	City University of New York	Math and Science Partnership in New York City (MSPinNYC) (http://mspnyc.mspnet.org)	**T**	2004
OH	Stark County Educational Service Center	Stark County Math and Science Partnership (http://stark.mspnet.org or http://www.sparcc.org/msp)	T	2002
	Cleveland Municipal School District	Cleveland Math and Science Partnership (http://cleveland.mspnet.org or http://www.cwru.edu/artsci/csm/CMSP.html)	T	2002
OR	Oregon State University	Oregon Mathematics Leadership Institute Partnership (http://ormath.mspnet.org or http://omli.org)	I	2004
PA	La Salle University	The Mathematics and Science Partnership of Greater Philadelphia (MSPGP) (http://mspgp.mspnet.org or http://www.mspgp.org)	T	2003

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State	Lead Partner	Project Title	Type of Partnership Targeted T Comprehensive C Institute I	Year First Funded
PA	University of Pennsylvania	Penn Science Teacher Institute (http://sti.mspnet.org/ or http://www.sas.upenn.edu/PennSTI/)	I	2004
	Allegheny Intermediate Unit	Southwest Pennsylvania Math Science Partnership (http://swpa.mspnet.org/ or http://www.aiu3.net/MSC)	C	2003
PR	University of Puerto Rico – Rio Piedras	Puerto Rico Math and Science Partnership (http://puertorico.mspnet.org or http://www.prmsp.org/english/home.htm)	C	2003
SD	Black Hills Special Services Cooperative	PRIME: Promoting Reflective Inquiry in Mathematics Education (http://prime.mspnet.org/ or http://www.primeproject.org)	T	2002
TX	Del Mar College	Alliance for Improvement of Mathematics Skills PREK–16 (AIMS) (http://alliance.mspnet.org or http://www.delmar.edu/aims)	T	2002
	University of Texas at El Paso	El Paso Math and Science Partnership (http://elpaso.mspnet.org or http://epcae.org/msp)	C	2002
	Stephen F. Austin State University	Texas Middle and Secondary Mathematics Project (http://texas.mspnet.org or http://www.faculty.sfasu.edu/kchilds/nsf2.html)	T	2002
	William Marsh Rice University	The Rice University Mathematics Leadership Institute (http://mli.mspnet.org or http://nsfmli.rice.edu/)	I	2004
VA	National Science Teachers Association	e-Mentoring for Student Success (http://ementoring.mspnet.org or http://emss.nsta.org/ or http://newteachercenter.org/eMSS)	T	2002
	Virginia Commonwealth University	NSF Institute: Preparing Virginia's Mathematics Specialists (http://vamath.mspnet.org)	I	2004
VT	The Vermont Institutes	Vermont Mathematics Partnership (http://vermont.mspnet.org or http://www.vermontmathematics.org)	T	2002
WA	Western Washington University	North Cascades and Olympic Science Partnership (http://cascadesolympic.mspnet.org or http://www.ncosp.wwu.edu)	T	2003
WI	University of Wisconsin – Madison	System-Wide Change for All Learners and Educators (SCALE) (http://scale.mspnet.org or http://scalemsp.wceruw.org)	C	2002
	University of Wisconsin – Milwaukee	Milwaukee Mathematics Partnership: Sharing in Leadership for Student Success (http://milwaukee.mspnet.org or http://www.mmp.uwm.edu)	C	2003

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MSP Research, Evaluation, and Technical Assistance Projects State-by-State

State	Lead Partner	Project Title	Year First Funded
CA	WestED	Research on MSP Teacher Recruitment, Induction, Retention (http://rir.mspnet.org)	2003
DC	Council of Chief State School Officers	Development in Improving Quality of Instruction in Mathematics and Science (http://ld.mspnet.org or http://www.ccsso.org/projects/surveys_of_enacted_curriculum)	2002
	National Academy of Sciences	Facilitating Mathematics/Science Partnerships (http://facilitating.mspnet.org or http://www7.nationalacademies.org/msp)	2002
		Building from the Research: Envisioning Quality Science Assessments (http://sciassessments.mspnet.org)	2002
FL	University of South Florida	Florida Science and Mathematics Education Summit (http://fsmes.mspnet.org)	2004
GA	Georgia Institute of Technology	Alternative Approaches to Evaluating STEM Education Partnerships: A Review of Evaluation Methods and Application of an Interorganizational Model (http://sp.mspnet.org or http://www.prism.gatech.edu/~gk18/STEM)	2002
IL	Northwestern University	Developing Distributed Leadership: Understanding the Role Boundary Tools in Developing and Sustaining Leadership for Learning Networks (http://distleadership.mspnet.org or http://www.distributedleadership.org)	2003
		Distributed Leadership for Middle School Mathematics Education: Content Area Leadership Expertise in Practice (http://leadership.mspnet.org or http://www.sesp.northwestern.edu/dls)	2004

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State	Lead Partner	Project Title	Year First Funded
MA	Education Development Center	Online Technologies to Enhance MSP Teacher Quality Programs (http://ot.mspnet.org or http://www2.edc.org/cope_mspreta)	2003
		Leadership Content Knowledge and Mathematics Instructional Quality in the MSPs: A Study of Elementary and Middle School Principals (http://sop.mspnet.org or http://www2.edc.org/CDT/cdt/cdt_tmi.html)	2003
	Harvard University	MOSART: Misconception Oriented Standards-based Assessment Resource for Teachers (http://mosart.mspnet.org)	2004
	TERC Inc.	MSPnet : An Electronic Community of Practice Facilitating Communication and Collaboration (http://mspnet.mspnet.org or http://www.terc.edu/)	2003
MD	Westat	The Effect of STEM Faculty Engagement in MSP: A Longitudinal Perspective (http://esfe.mspnet.org)	2003
MI	Michigan State University	Causal Inference in Instructional Workforce Research (http://tqqt.mspnet.org or http://www.msu.edu/user/mkennedy/TQQT)	2003
	University of Michigan Ann Arbor	MSP Motivation Assessment Program (http://ma.mspnet.org or http://www.mspmap.org)	2003
		Design, Validation, and Dissemination of Measures of Content Knowledge for Teaching Mathematics (http://mathknowledge.mspnet.org or http://sitemaker.umich.edu/lmt)	2003
NC	Horizon Research	Assessing Teacher Learning About Science Teaching (http://atl.mspnet.org)	2003
		Knowledge Management and Dissemination for the MSPs (http://km.mspnet.org)	2004
NJ	Institute for Advanced Study	Mathematician Study Group of State Standards in Mathematics, Park City Utah, July 21-25, 2004 (http://mathstudy.mspnet.org)	2004
NY	The College Board	Redesign of the AP Biology Course, Examination, and Teacher Professional Development Experience (http://rapb.mspnet.org)	2003
UT	Utah State University	Building Evaluation Capacity of STEM Projects (http://be.mspnet.org or http://www.usu.edu/cbec)	2002
WI	University of Wisconsin – Madison	Adding Value to the Mathematics and Science Partnerships Evaluations (http://av.mspnet.org or http://www.addingvalue.org)	2002

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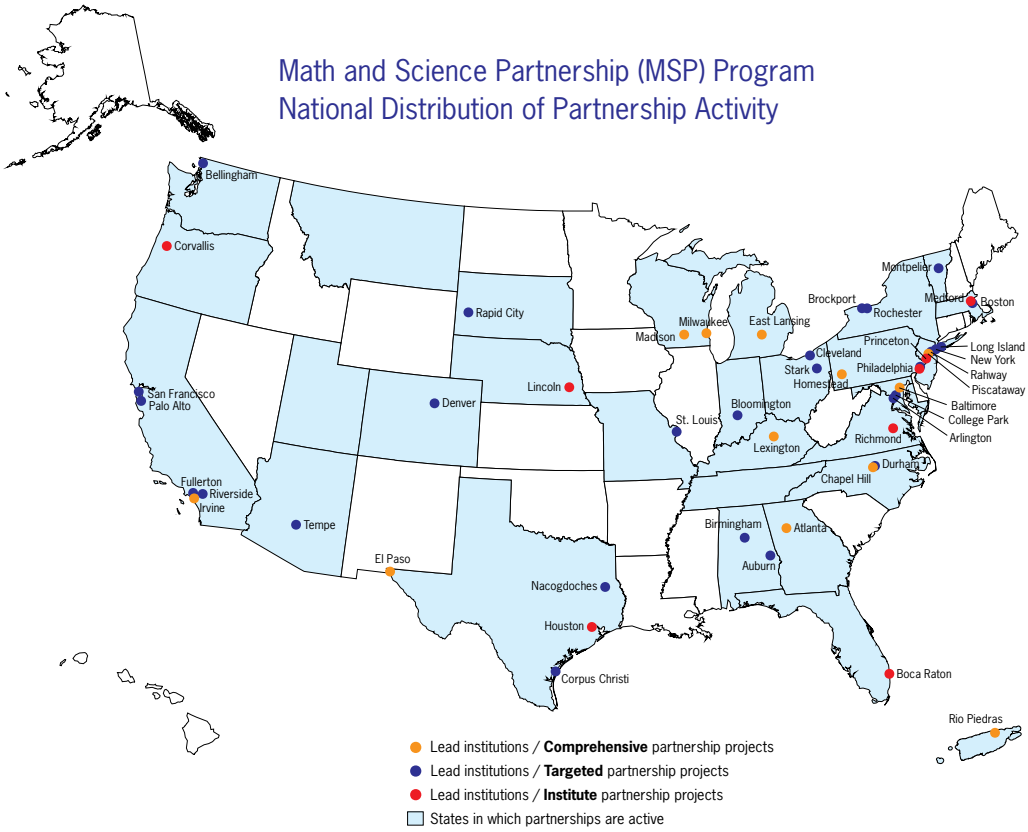
MSP Partners

Funded partnerships bring together about 150 institutions of higher education with some 450 K-12 school districts and a host of other stakeholders. Corporate and business partners include Pfizer, Inc.; Ford Motor Company; Texas Instruments, Inc.; Xerox Corporation; GlaxoSmithKline; Progress Energy; International Business Machines Corporation; Merck & Company, Inc.; Synopsys, Inc.; Agilent Technologies; and Intel Corporation.



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NSF-05-069

"Responsibility for preparing our children, and indeed our country, to thrive in the 21st century world extends far beyond the classroom. We know that we must ensure that America's children are well prepared for the scientific and technological opportunities and challenges of the future.

With an eye on the future, the Math and Science Partnership Program concentrates the power and expertise of higher education institutions, K-12 school systems, and businesses across the country in a research and development effort to improve our students' mathematics and science achievement."

– Dr. Arden L. Bement, Director, National Science Foundation