

Linking Standards, Research and Classroom Practice

Professional Development for Standards-Aligned and Research-Based
Science and Mathematics Education from



Engaging science and mathematics educators with the core ideas of science and mathematics is critical to supporting standards-aligned and research-based curriculum, instruction, and assessment. With funding support from the National Science Foundation, MMSA has created a variety of unique tools and custom-designed professional development processes that will benefit your organization, no matter what the level or type of educational institution: from pre-service and in-service classroom teachers, to those who work with teachers, in schools, colleges and universities, and informal institutions.



Our Tools

Our hallmark tools include the Curriculum Topic Study resources, the Uncovering Student Ideas in Science series, the Uncovering Student Thinking in Mathematics series, and Science and Mathematics FACTs books (Formative Assessment Classroom Techniques). These powerful tools, authored by nationally renowned science and mathematics specialists, are embedded within our various professional development designs and structures.

Curriculum Topic Study

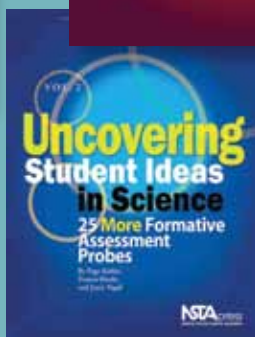
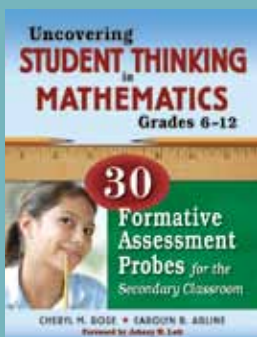
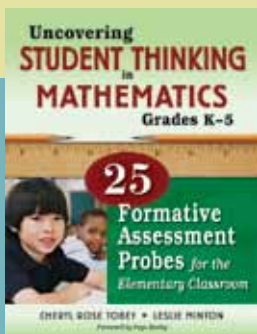
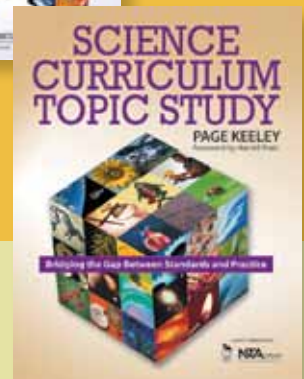
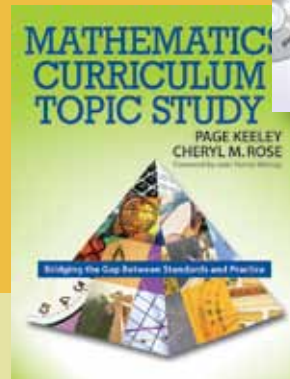
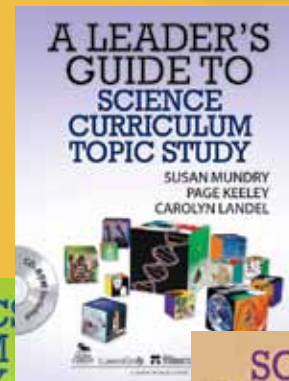
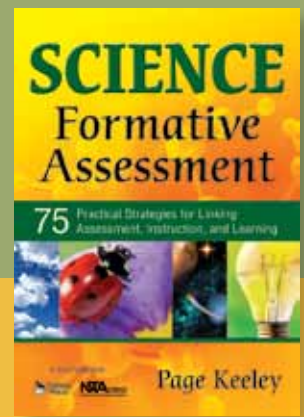


The Curriculum Topic Study (CTS) process and tools, funded by the National Science Foundation, help teachers, teacher leaders, instructional coaches, curriculum specialists, teacher preparation faculty and professional developers improve their practice by linking state and national standards, internationally benchmarked core ideas, and research on learning to curricular content using a unique professional development process.

CTS workshops are customized to fit within your professional development context. We offer sessions ranging from introductions to CTS to full applications. Our designs range from 1, 2 or 3 day sessions to week-long institutes.

We also work with K-12 school districts, Math-Science Partnership projects, universities, and various science and mathematics initiatives to embed CTS into your professional development structures.

Visit the CTS website for more detailed information:
www.curriculumtopicstudy.org



Formative Assessment

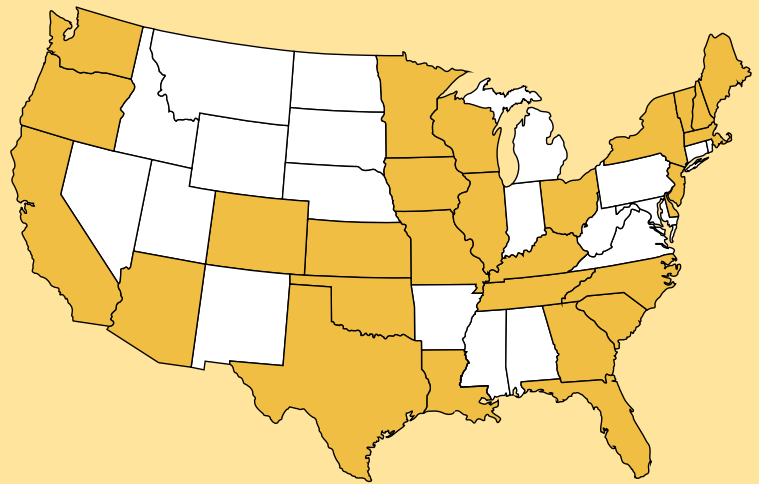
Our best-selling books and professional development sessions help teachers learn how to use formative assessment probes and FACTs (formative assessment classroom techniques) to identify students' preconceptions and conceptual difficulties, and use this data to inform instruction and promote learning. Our assessments are designed to link core ideas in science and mathematics to common research-identified misconceptions and common errors. By understanding how students think, before and throughout instruction, teachers learn to make better instructional decisions and as a result, student performance improves. Our formative assessment professional development can be customized to fit within your professional development context.

Our professional development sessions range from ½, 1, 2 or 3 day sessions to week-long institutes.

Visit the MMSA website for more detailed information:
www.mmsa.org

Implications For Professional Development

Finding time to stay abreast of current standards and research is difficult. A teacher's day is already jam-packed and the question frequently asked is "Where do we find the time to learn this?" The answer lies in making better use of professional development. Our tools and professional development processes provide the critical elements teachers need to efficiently and effectively link theoretical knowledge and current research to situations teachers face in their classrooms very day.



Our Professional Development Staff

Our professional development staff are nationally recognized for their leadership in science and mathematics education. We specialize in helping science and mathematics educators at all levels to:

- increase their content and pedagogical knowledge
- access and utilize cognitive research
- translate standards to the classroom in a deliberate, scholarly way
- learn to recognize and address learning difficulties
- increase opportunities for all students to achieve scientific and mathematical literacy

To read the bios of our staff, please visit the MMSA web site at www.mmsa.org.

Maine-Based with National Reach

We work with schools and organizations nationwide. We have provided CTS or formative assessment professional development to all states highlighted on this map...in collaboration with a variety of schools and organizations, such as:

Maine Governor's Academy for Science and Mathematics Education Leadership • Louisiana Department of Education MSP Program • Northern Cascades and Olympic Science Partnership • Orange County School District, Orlando, FL • Salem (OR) School District • Northern Arizona University • National Science Education Leadership Association • Washington State LASER • Baylor College of Medicine Elementary Science Institute • El Paso (TX) Independent School District • High AIMS Consortium, Cincinnati, OH • University of Delaware GK-12 Project • Boston (MA) Science Partnership • The Blake School, Minneapolis, MN • Raritan Valley New Jersey Astronomy Institute • New Hampshire Department of Education



CONTACT: To learn more about our CTS and formative assessment professional development and discuss your professional development needs, contact **Page Keeley** (left) at pkeeley@mmsa.org or **Joyce Tugel** (right) at jtugel@mmsa.org.



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The Maine Mathematics and Science Alliance promotes excellence in K-16 STEM (science, technology, engineering, and math) education through exemplary professional development with teachers and other educational leaders. Our strength is translating research and educational standards into effective teaching and learning practice statewide and across the nation. As the major K-16 STEM education organization in Maine, we have provided leadership, resources, professional development, and policy support to educators since 1993. We are committed to ensuring that all students meet or exceed state and national standards. MMSA is a 501(c)3 nonprofit organization.

www.mmsa.org

Discover: The Missing Link for Transforming Professional Development

INSIDE: Learn how our widely used, intellectually invigorating professional development materials and processes can improve STEM teaching and learning at your school or organization.