



Research tells us that students learn science best through an inquiry process. When coupled with exemplary curriculum, the inquiry process leads to better understanding and retention of content. For that reason, many educators are changing from the traditional textbook approach to hands-on, inquiry science. This substantive change in approach requires an equally substantive change in professional development practices.

SUPPORTS THE PROFESSIONAL GROWTH OF SCIENCE TEACHERS

High-quality professional development is essential for effective science education. As teachers' understanding of science and pedagogy increases, they become more able to engage young minds in the sciences. Professional development is especially valuable when it ties into the curriculum that teachers are using. Courses offered through the National Science Resources Center (NSRC) Professional Development Center (PDC) are tailored to the NSRC's curricula:

- *Science and Technology for Children (STC)* for K-6 students
- *Science and Technology Concepts for Middle Schools (STC/MS)* for students in grades 6-8

STC AND STC/MS SCIENCE CURRICULA

Grade Level	Life and Earth Sciences		Physical Sciences and Technology		
STC	K-1	Organisms	Weather	Solids and Liquids	Comparing and Measuring
	2	The Life Cycle of Butterflies	Soils	Changes	Balancing and Weighing
	3	Plant Growth and Development	Rocks and Minerals	Chemical Tests	Sound
	4	Animal Studies	Land and Water	Electric Circuits	Motion and Design
	5	Microworlds	Ecosystems	Food Chemistry	Floating and Sinking
	6	Experiments with Plants	Measuring Time	Magnets and Motors	The Technology of Paper
STC/MS	6-8	Human Body Systems	Catastrophic Events	Properties of Matter	Energy, Machines, and Motion
	6-8	Organisms – From Macro to Micro	Earth in Space	Light	Electrical Energy and Circuit Design

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Note: All STC units can be used at one grade level above or below the level indicated on the chart. STC/MS units can also be used at grade 9.

For more information about the NSRC's curricula please visit www.nsrconline.org

BUILDS TEACHER EXPERTISE

In order to be an effective science educator, the teacher must also be an effective learner, continually building on existing knowledge and skills. The PDC courses provide teachers with the opportunity to learn and practice the skills needed to create supportive classroom environments for student inquiry. The PDC offers courses that move teachers through all levels of the proficiency continuum – from novice to expert.

PROFESSIONAL DEVELOPMENT COURSES

COURSE	AUDIENCE	CONTENT
STC/MS Overview and Awareness Sessions	Administrators, science content specialists, and teachers	<ul style="list-style-type: none"> – An overview of the philosophy and goals of the STC/MS program – A hands-on experience with typical investigations used in STC/MS modules – A general description of the content of the STC/MS modules
STC/MS 3-Day Curriculum Implementation Courses	Teachers	Prepare teachers to use an STC/MS module in their classrooms
STC/MS 3-Day Curriculum Implementation Courses	Teachers and teacher leaders.	Prepare other education professionals to deliver the courses described above
STC/MS Short Courses for Enhancing the Curriculum	Teachers	One-day courses that focus on specific aspects of science instruction, such as: <ul style="list-style-type: none"> – Understanding inquiry science – Identifying the conceptual strands in the STC and STC/MS curricula – Reading, writing, and notebooking in the inquiry science classroom – Integrating assessment strategies – Incorporating probeware and computer use in STC/MS
STC Courses	Teachers	A range of professional development courses supporting the revised STC elementary curriculum to be offered late 2004
STC/MS Content Courses	Teachers	Provide teachers with hands-on, inquiry experiences that help them gain a deeper understanding of the concepts in the modules. NSRC works in partnership with academic institutions to develop and offer content courses contextualized to the eight STC/MS modules. They are applicable to any standards-based content course.



NSRC CENTERS OF EXCELLENCE FOR SYSTEMIC REFORM

The NSRC provides services and products for improving the learning and teaching of science in the nation's school districts. Informed by research, these services are delivered through three integrated centers: the Leadership and Assistance for Science Education Reform (LASER) Center, the Professional Development Center, and the Curriculum Development Center.

MODELS THE INQUIRY APPROACH

OUR COURSES ARE

- Endorsed by the NSRC, an organization of the Smithsonian Institution and the National Academies
- Designed by the developers of STC and STC/MS
- Presented by NSRC PDC-certified trainers
- Designed to integrate educational technology and technological design in the classroom
- Supported by Carolina Biological Supply Company, publisher of STC and STC/MS

WHO SHOULD TAKE A PDC COURSE?

- Existing and new users of STC and STC/MS
- District science specialists
- Teacher leaders
- Educators planning to adopt a new science curriculum

SCHEDULE A COURSE AT YOUR SITE!

We welcome the opportunity to customize our services to suit the unique needs of districts and coalitions. This includes letting you choose the most convenient site location. For further information, contact the NSRC Professional Development Center at 202-287-7307. You may also contact us via email: nsrpdcenter@si.edu.

In *Science*, February 13, 2004, Kofi Annan, Secretary General of the United Nations, cited the NSRC as a model of science education reform.

VISIT OUR WEB SITE FOR MORE INFORMATION

Please check the professional development section at www.nsrconline.org for more about the Professional Development Center's programs and services or for information on scheduling a course.

ABOUT THE NSRC

The National Science Resources Center is committed to establishing effective science programs for all students. The NSRC employs strategies that are informed by research and based on best practices. These strategies leverage change through the development of strategic partnerships.

Established in 1985, the NSRC is an organization of the Smithsonian Institution and the National Academies. Both the Academies and the Smithsonian provide the NSRC with direct access to the highest quality research and scientific and engineering expertise to inform services and products.



PROFESSIONAL DEVELOPMENT CENTER

FOR ELEMENTARY AND MIDDLE SCHOOL SCIENCE EDUCATORS



*Leave No
Science Teacher
Behind*

WHY CHOOSE PDC COURSES?

BECAUSE THE PDC LEADERS ARE EXPERTS IN PROFESSIONAL DEVELOPMENT FOR STC AND STC/MS

BECAUSE TEACHERS

- Gain a conceptual understanding of the science content and pedagogy needed to implement inquiry science effectively
- Learn how to implement STC and STC/MS in the classroom
- Experience inquiry science as a part of each course

BECAUSE WE PARTNER WITH YOU TO

- Provide courses to meet your school district's science professional development needs
- Collaborate on Math/Science Partnerships
 - Provide professional development for existing projects
 - Include NSRC professional development services as part of your proposal
- Provide summer courses for teachers
- Incorporate professional development into business and school district partnerships

BECAUSE OUR COURSES ADDRESS THE NATIONAL SCIENCE EDUCATION STANDARDS

The PDC can ensure that your science teachers have a base of scientific knowledge and skills that enables them to:

- Understand the nature of scientific inquiry and its central role in science
- Use the skills and processes of scientific inquiry
- Understand the fundamental concepts that underlie the major science disciplines
- Make conceptual connections within and across science disciplines, as well as with mathematics, technology, and other content areas

FOR MORE INFORMATION ON THE PROFESSIONAL DEVELOPMENT CENTER

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TELEPHONE

Contact the NSRC Professional Development Center at 202-287-7307.

E-MAIL

You may also contact us via email: nsrcpdcenter@si.edu



THE NSRC IS AN ORGANIZATION OF:

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Advisers to the Nation on Science, Engineering, and Medicine



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"In our ever changing world, science content increases and changes, and a teacher's understanding of science must keep pace."

NATIONAL SCIENCE
EDUCATION STANDARDS, 1996

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