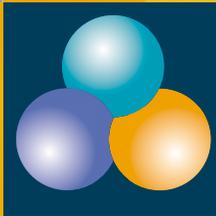


CURRICULUM DEVELOPMENT CENTER



**Innovative, research-based curriculum for improving
science learning and teaching**

National Science Resources Center

THE NATIONAL ACADEMIES  Smithsonian
Institution

Curriculum Development Center



RESEARCH-BASED CURRICULUM IS ESSENTIAL

Research-based curriculum is a critical component of an effective science program. The NSRC Curriculum Development Center researches, develops, and publishes inquiry-centered science education curricula that can be used by school districts to construct core instructional programs. The NSRC also identifies and recommends other research-based science education programs. To address this need, all curricula developed or recommended by the NSRC are inquiry-based and have undergone a rigorous research and development process.

THE NSRC STC AND STC/MS SCIENCE CURRICULUM PROGRAMS

The NSRC has developed two comprehensive science curriculum programs for K–8 students: Science and Technology for Children® (STC), for K–6 students; and Science and Technology Concepts for Middle Schools™ (STC/MS), for 6–8 students.

STC AND STC/MS SCIENCE CURRICULUM PROGRAMS

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.

RESEARCH-BASED CURRICULUM

- Aligned with the National Science Education Standards of the National Research Council
- Developed using a rigorous research and development process
- Field-tested with diverse student populations representing urban, rural, and suburban districts
- Provides age-appropriate opportunities for children to expand their conceptual understanding of important science concepts, acquire problem-solving and critical-thinking skills, and develop positive habits of mind toward science
- Incorporates opportunities for reading and reflection, discussion and analysis, and writing and independent study
- Offers students opportunities to apply newly learned concepts and skills to their everyday lives
- Incorporates assessment tools and the critical implementation needs of both teachers and districts
- Assessed by an external evaluator and reviewed by master teachers, scientists, and engineers to ensure scientific integrity and educational effectiveness



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.

NSRC Elementary Science Curriculum

■ Science and Technology for Children (STC)

STC is an innovative, comprehensive 24-unit K–6 curriculum. The STC provides age-appropriate opportunities for children to expand their conceptual understanding of important science concepts, acquire problem-solving and critical-thinking skills, and develop positive habits of mind toward science. Field-tested in school districts nationwide, the curriculum is being used in thousands of elementary school classrooms throughout the United States. This curriculum is also available in Spanish.

■ STC Meets the Standards

This publication presents a detailed explanation of how STC correlates with the National Science Education Standards.

■ STC Teacher Instructional Videos

Videos accompany all STC units. In each tape, a master STC teacher demonstrates how to organize the kit materials and employ effective classroom management techniques.

NSRC Middle School Science Curriculum

■ Science and Technology Concepts for Middle Schools (STC/MS)

Designed for students in grades 6–8, STC/MS is a comprehensive middle school science curriculum that builds on the STC program.

■ Guide to Probeware and Computer Applications for STC/MS

A supplement to the STC/MS curriculum, this guide contains probeware and computer technology applications that allow students to use more sensitive equipment during lab experiments. These applications may replace or enhance inquiries in individual STC/MS modules.

OTHER RESEARCH-BASED CURRICULUM PROGRAMS

The NSRC identifies other research-based curricula and provides this information on-line and in annotated resource guides. The curricula in these guides were evaluated by panels of teachers and scientists who used carefully developed criteria based on the National Science Education Standards.

- Resources for Teaching Elementary School Science
- Resources for Teaching Middle School Science

MAKING AN IMPACT ON STUDENT ACHIEVEMENT

An emerging body of research indicates that when quality instructional materials are fully implemented — that is, consistently taught, using all components — the result is enhanced student achievement, compared with the use of traditional curricula.

Gaston, G., Wood, R., Collette, J. (2002) Delaware Smithsonian Project Report: Building on Success to Improve Our Children's Future, 1995–2002 Update.

Klentschy, M., Garrison, L., & Amaral, O.M. (2002) Valle Imperial Project in Science (VIPS): Four-Year Comparison of Achievement Data, 1995–1999.



ABOUT THE NSRC

The Leader in Science Education Reform

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

An Organization of the Smithsonian Institution and the National Academies

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 its services and products.

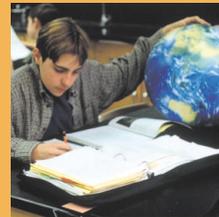
STC and STC/MS Publisher

Carolina Biological Supply Company (CBSC) is the exclusive publisher and marketer for the NSRC curricula: Science and Technology for Children® (STC) and Science and Technology Concepts for Middle Schools™ (STC/MS). In addition, CBSC provides support to all three NSRC Centers of Excellence.

For information about STC or STC/MS, call 800-227-1150 or visit www.carolina.com.



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THE NSRC IS AN ORGANIZATION OF:

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