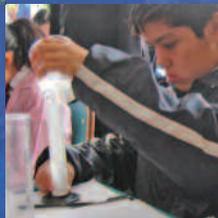


National Science Resources Center

THE NATIONAL ACADEMIES  Smithsonian Institution

SHAPING YOUR FUTURE WORKFORCE:

CORPORATE AMERICA'S ROLE IN PREPARING OUR COUNTRY FOR SUCCESS



The National Science Resources Center

The mission of the National Science Resources Center (NSRC), an organization of the Smithsonian Institution and the National Academies, is to improve the learning and teaching of science for all students in the United States and throughout the world. The NSRC is committed to establishing effective science programs for all students through strategies that are informed by research, incorporate best practices, and leverage change through the development of strategic partnerships.

Our Parent Institutions--

The Smithsonian Institution

In the early 19th century, Englishman James Smithson bequeathed his fortune to found the Smithsonian Institution “for the increase and diffusion of knowledge.” The Smithsonian Institution fulfills that mission in many ways, including promoting innovation, research, and discovery in science.

The National Academies

The National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council work outside the framework of government to ensure independent advice on matters of science, technology, and medicine.

American Competitiveness and Science Education: A Nation Still at Risk

American business is facing the stark reality that in a world increasingly based on science and technology, fewer U.S. students are preparing themselves for careers in these fields. Unless action is taken now, future employers will encounter a declining pool of qualified workers. Training costs will continue to soar. The pressure to outsource jobs to skilled workers overseas will intensify. All of this translates into a loss of U.S. innovation and competitive edge.

By supporting the NSRC in its mission to improve science education, you can help change this alarming trend.

From the moment they begin school, students must be engaged in science programs that motivate and inspire them. These science programs must be based on research about how students learn, and assist students in developing deep conceptual knowledge in the earth, life, and physical sciences; acquiring critical thinking and problem solving skills; and developing scientific habits of mind. Students must be supported in this endeavor by a broad community of leaders that shares a common vision of what a quality science education program looks like. Students who participate in research-based science programs are more likely to choose careers in science and technology. Even those who pursue other career paths form the backbone of a science-literate society.



The Depth of the Issue

“In both mathematics and science, most students did not reach the proficient performance level, a level denoting solid performance for their grade based on judgments of what students should know and be able to do in the subject assessed. In both subjects, only about one third of 4th- and 8th-grade students, and even fewer 12th-grade students, reached the proficient level.”

—NSF, Science and Engineering Indicators, 2006

“When I compare our high schools to what I see when I’m traveling abroad, I am terrified for our workforce of tomorrow.”

—Bill Gates, Chairman, Microsoft Corporation, 2005

“Aside from a gain in the biological sciences, all other science and engineering disciplines have seen an absolute decline in the number of degrees conferred annually since 1985.”

—Committee on Economic Development, 2003

“Twenty-nine percent of all science and engineering degree holders in the labor force are age 50 or over. Among science and engineering doctorate holders in the labor force, 44 percent are age 50 or over.”

—NSF, Science and Engineering Indicators, 2006



The National Science Resources Center: Leading Science Education Reform

The NSRC was established by the Smithsonian Institution and the National Academies in 1985 with a mission to improve the teaching and learning of science in the United States and throughout the world. It provides schools with the resources necessary to transform traditional textbook-based learning to research-based learning that inspires and motivates students to develop deep conceptual knowledge in the earth, life, and physical sciences; acquire critical thinking and problem solving skills; and develop scientific habits of mind. It does this by:

- **Offering leadership development for increasing the number of districts implementing effective science programs;**
- **Supporting the professional growth of teachers; and**
- **Providing K–12 research-based instructional materials.**

The NSRC's core values, theory of action, and science education reform processes are based on research in cognitive development, theories on organizational change, and the impact of program activities on student achievement. An in-depth understanding of the unique culture of school systems further enriches this philosophy.

Why Corporate America Must Be Involved

THERE ARE MANY REASONS WHY CORPORATIONS FORM PARTNERSHIPS TO IMPROVE SCIENCE AND MATH EDUCATION

- Improve schools, often in places where businesses and other employers have a vested interest in the success of schools;
- Ensure that employees have the skills they need to do their jobs;
- Improve and expand the U.S. science and technology workforce;
- Contribute to a science-literate citizenry;
- Be a good corporate citizen;
- Create markets for the corporation's goods; and
- Foster a prosperous economy.

“People think of DuPont as a chemical company, but we’re really a science company. We do what we can to promote science literacy for all. People who are science literate—who have a good basic grasp of the principles of science—are wiser consumers and have a better understanding of the major science issues of our day.”

—PHYLLIS BUCHANAN, MANAGER,
DUPONT OFFICE OF EDUCATION

Corporate America's Role: What Works

With more than 20 years of experience in science education reform, the NSRC has learned that corporations who are most effective share the following characteristics. They:

Proactively assess the educational strengths and needs of their community, their local school district, and the present and future workforce.

Invest in education throughout the K-16 continuum by supporting programs that promote science learning.

- Encourage excitement in science, mathematics, and technology careers.
- Enhance interaction with scientists and engineers.
- Support research that contributes to increased public and private support for science education.

Create partnerships for change.

- Leverage existing resources and programs within the company and the community.
- Employ best practices that have shown measurable results.

Ensure sustainability of exemplary science programs.

- Work at the local level, advocate at the national level.
- Invest in education programs that are strategic and scalable.
- Demonstrate and advocate for a sustained commitment.

Support integration of efforts.

- Assess the impact of your work on schools and on student achievement.
- Share lessons learned with others.
- Support dissemination of information to the public.



“ . . . Some corporate leaders are challenging schools to improve, and are willing to work with the schools to make improvement happen. . . . These school-business partners are setting high but achievable goals, working together to reform key elements of the school system, mobilizing community support for reform, and setting the agenda for education reform at the state and national levels.”

—DR. CARLO PARRAVANO, DIRECTOR, MERCK
INSTITUTE FOR SCIENCE EDUCATION

Join the NSRC and Its Partners in Making a Difference

Become part of a nationwide effort to improve science education and prepare our nation's youth for study, work, and citizenship in the 21st century.

Become an Advocate

Serve as a key leader in the national movement to improve the way science is taught and learned.

Partner with State and Local School Districts' Leaders

Support the NSRC and its work to help improve science programs and implement systemwide change at the state and local levels.

Contribute Knowledge

Donate expertise, time, and other resources to the design and development of NSRC programs.

Become Involved with International Science Education

Help bring a global perspective to science education in the United States and improve science education internationally.

The NSRC Corporate and Foundation Coalition

The NSRC formed a Corporate and Foundation Coalition to leverage Corporate America's collective expertise to improve the learning and teaching of science in our nation's schools. The Coalition accomplishes this mission by:

- Expanding awareness of best practices and exemplary models of science education reform through leadership symposiums and other events;
- Using a coordinated approach with defined goals and a strategic plan for scaling up and sustaining K–12 science education reform with school districts throughout the United States; and
- Identifying programs and resources to assist districts currently implementing research-based programs in sustaining their efforts over the next decade.

Corporations, foundations, and other organizations have devoted considerable resources to support the progression of systemic reform of science education. Many have formed partnerships with the NSRC because of the NSRC's unique approach to reform, which is to:

- Utilize a systems approach
- Scale existing programs that have demonstrated success
- Leverage expertise and resources
- Look for value-added partnerships

For more information:

NSRC Development Office
901 D Street, S.W., Suite 704–B
Washington, D.C. 20024

202.633.2956
www.nsrconline.org



National Science Resources Center
901 D Street SW, Suite 704-B
Washington, DC 20024
<http://www.nsrconline.org>

THE NSRC IS AN ORGANIZATION OF:

THE NATIONAL ACADEMIES
Advisers to the Nation on Science, Engineering, and Medicine



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