

Girls Inc. Operation SMART[®]

Science, Math, and Relevant Technology

Why This Program?

In 2003, three fourths of the SAT test takers wanting to major in engineering and computer science were young men. Overall, in 2001, women represented just 24% of the science and engineering workforce. Moreover, women employed in science and engineering professions, depending on the field, earned an average of 68 cents to 89 cents for every dollar earned by a man.

Girls Inc. Operation SMART was launched in 1985 to dispel stereotypes about math and science and to invite girls ages 6 to 18 to join the fun of discovering the world around them. The approach was fun, but the purpose was serious: prepare girls for lucrative scientific and technical careers that most of them would otherwise never consider. Within a supportive, experiential, all-girl environment, Operation SMART participants have an opportunity to satisfy their curiosity about the world and to develop the personal tools necessary to pursue education and careers in the sciences.

About the Program

Girls Inc. Operation SMART, one of our hallmark programs, is organized around a philosophy: *equity, exploration, empowerment, and fun*. Hands-on activities give girls the opportunity to explore, ask questions, and solve problems. In Operation SMART sites across the country, over half a million girls between the ages of 6 and 18 have started on the path to becoming engineers, auto mechanics, and micro surgeons.

Facilitators may apply the Operation SMART approach to their own activities and settings, and/or they may choose to deliver any of our three components, which are built around this philosophy:

- **Eureka!**[®] Girls ages 12-15 participate on a college campus during two consecutive summers to learn math, science, computers, and sports, as well as personal and career development. Follow-up sessions during the academic year and paid internships during the third year reinforce learning.
- **Girls Dig It**SM Girls ages 12-14 participate in activities linking together archaeology, the humanities, and science. An online component designed to enhance the computer technology skills of girls participating in the program provides girls with the opportunity to upload their dig reports and share their findings with other girls across the country participating in Girls Dig It.
- **Thinking SMART**SM (currently under development): Middle-school girls are introduced to the thought processes and methods employed by science, technology, engineering, and math professionals and provided with opportunities to take on real-life scientific challenges.

Girls Inc. has published several other documents and resources to explain how to get and use supplies, books, and equipment; how to raise funds; how to make community connections; and how to maintain an equity-based science program in a community agency, school, or science museum.

What is the Operation SMART "Formula for Success"?

- **Assume girls are interested in math, science, and technology.** Too many girls still get the message that math and science aren't for them. Research shows that parents, teachers, and other adults typically expect girls not to perform as well as boys in science, math, and related subjects regardless of their interest, true potential, or demonstrated abilities. At Girls Incorporated sites, however, girls jump at the opportunity to dismantle machines, observe plants and animals, and build robots.

"I'm proud of what we built. Usually, you see men at a construction site, not women. This [program] proves that we can get along and get the job done"

—Megan, age 13

- **Let them make big, interesting mistakes.** Girls who are overly protected in the lab or on the playground have few chances to assess risks and solve problems on their own. At Girls Incorporated, once-dreaded mistakes become hypotheses. Supported rather than rescued by adults, girls learn to embrace their intellectual curiosity and trust their own judgment.
- **Help them get past the "yuck" factor.** Girls who are afraid of getting dirty aren't born that way—they're made. Girls Incorporated encourages girls to put concerns about their "femininity" aside. Girls learn that they have a right to be themselves and to resist pressure to behave in gender-stereotyped ways.
- **Expect them to succeed.** Girls Incorporated programs reflect our belief and expectation that girls are capable of excelling at math and science now, and of continuing to do so throughout high school, college, and beyond. They learn that their ambition is as natural as boys'—and as necessary, if they are to become leaders of the 21st Century.

Results

A preliminary program evaluation reveals that the more a girl participates in Operation SMART, the more favorable her attitude toward studying science and math. Girls told evaluators that, as a direct result of participation in Operation SMART, they would use science and math as adults. Girls who attended Girls Inc. Operation SMART sessions have demonstrated increased confidence, competence, and comfort in science, math, and technology.

An independent program evaluation showed that, after participation in Operation SMART, 75% of girls ages 6-11 reported that the program had a positive influence on their attitudes towards science. Parents rated Operation SMART highly (92% average) as a positive influence on their daughters' attitudes towards science.

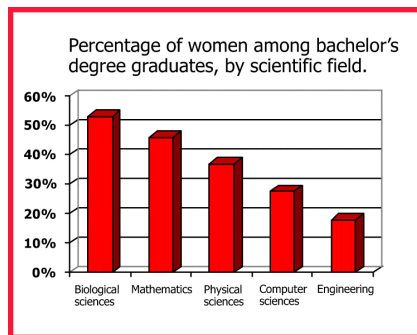
Funders

The following grant makers are among the many generous contributors who have supported the Girls Inc. Operation SMART program and related initiatives:

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Girls Incorporated

Girls Incorporated[®] is a nonprofit organization that inspires all girls to be strong, smart, and boldSM. With local roots dating to 1864 and national status since 1945, Girls Inc. has responded to the changing needs of girls through research-based programs and public education efforts that empower girls to understand, value, and assert their rights. In 2004, Girls Inc. reached nearly 800,000 girls through Girls Inc. affiliates, our website, and educational publications.



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