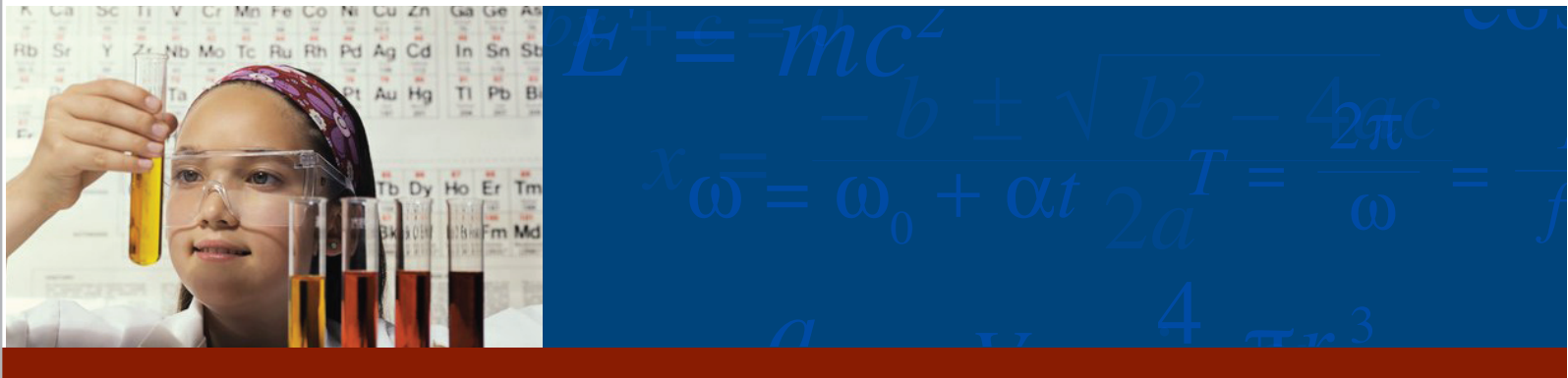


# DID YOU KNOW?



## THE GENDER GAP IN MATH AND SCIENCE

Who says girls can't do math and science? The top three winners in the 2006 Intel International Science and Engineering Fair were female students, chosen from among 1,500 high school contestants in 47 countries (*Science* magazine May 26, 2006). The top three winners in the 2007 Siemens Competition in Math, Science and Technology, often described as America's premier high school science competition, were female students (*BusinessWeek* Dec. 3, 2007).

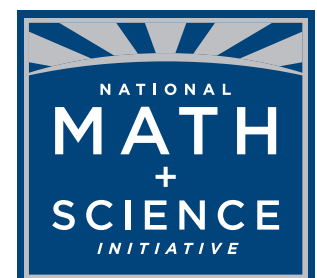
“Women hold about 27 percent of jobs in computer and mathematical occupations, according to the Bureau of Labor Statistics.”

Cybergirls dominate the Web—but not computer science. More girls than boys blog (35 percent of girls compared with 20 percent of boys) and create or work on their own Web pages (32 percent of girls compared with 22 percent of boys). But while girls surpass boys as Web content creators, the imbalance among adults in the computer industry remains. Women hold about 27 percent of jobs in computer and mathematical occupations, according to the Bureau of Labor Statistics. Nearly 75 percent of tomorrow's jobs will require use of computers, while fewer than 33 percent of participants in computer courses and related activities are girls (US Labor Statistics: JOBS 2000).

For 30 years, according to the National Academy of Sciences, women have earned at least 30 percent of the nation's doctorates in social and behavioral sciences, and at least 20 percent of the doctorates in life sciences. Yet they appear at less than half those levels among professors. Women from minority groups are “virtually absent” according to the 2006 NAS report, “Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering.”

To learn more, visit:

[www.nationalmathandscience.org](http://www.nationalmathandscience.org)



MULTIPLYING SUCCESS

Medical school leadership is still predominantly male although women now make up more than half the student body in many medical schools. Only 9 percent of the clinical department chairs are female; only 11 percent of the U.S. medical school deans are female (*New England Journal of Medicine*, Nov. 8, 2007).

Women constitute 46 percent of the workforce in the U.S., but hold just 26 percent of the jobs in the fields of engineering, science and technology (National Science Foundation). Less than 10 percent (9.8) of American engineers are women. That equals slightly more than 200,000 women engineers out of just over 2 million employed engineers (National Engineers Week Foundation).

Thirty years after the passage of Title IX, the bill that promises equal opportunity for women in all aspects of federally funded education programs, women are still severely underrepresented on science, technology, engineering and mathematics faculties and exist primarily at the lowest professorial rankings, according to co-writers Dr. Donna Nelson and Diana C. Rogers of the University of Oklahoma (Released Jan. 15, 2004, National Press Club). In effect, a woman could get a Bachelor of Science without being taught by a female professor in her discipline or earn a Ph.D. without access to a woman faculty member in her field. The lack of female role models has the unfortunate effect of creating a repeating cycle of women leaving the university due to a lack of mentoring even before they themselves can act as mentors for future generations. Only 3 to 15 percent of full professors in the top engineering and science departments are women, although the percentage of Ph.D.s awarded to women is higher. In the top 50 computer science departments, there are no African-American, Hispanic or Native American women in tenured or tenure-track positions. There is no Native American female full professor and only one such African-American female in the physical sciences and engineering departments surveyed.

A survey in Canada showed that telling women they cannot do well in math turns out to be a self-fulfilling statement. Women who were told that men and women do equally well at math scored much better than those who were told there is a genetic difference in math ability. And women who heard there were differences caused by the cultural environment – such as math teachers giving more attention to boys – outperformed those who were simply reminded they were female (Dr. Steven J. Heine, University of British Columbia in Vancouver, Oct. 20, 2006 *Science Magazine*).

Girls are more successful in math and science programs that incorporate a cooperative, hands-on approach than in programs that stress competition and individual learning (National Council for Research on Women, *Balancing the Equation: Where are Women & Girls in Science, Engineering & Technology?* 2001).

### Ph.D.s Awarded to Women

	1987	2006
Biomed. Science	39%	50%
Chemistry	21 %	34%
Math	16%	27%
Computer Science	14%	21%
Engineering	7%	20%
Physics	9%	18%

Survey of Earned Doctorates 2006, Assoc. of Women in Science

