More girls are needed in STEM fields—and engagement begins in the early grades

[1] STEM education is important—in fact, it is essential to U.S. economic success. Today's K-12 STEM students are tomorrow's college STEM undergraduates and leading STEM innovators in the workforce.

Most STEM fields are traditionally male-dominated, and research has found that fostering an interest in STEM learning when students are still young makes those students more likely to pursue STEM majors and STEM careers.

Part of the trick to pulling more girls into STEM fields is getting rid of the stereotype that these subjects and careers are male-dominated. Educators, too, must encourage female students to nurture their interests in STEM fields. The stereotype that "boys are better at math" is incredibly detrimental. Having strong STEM teachers who are enthusiastic about and confident in the subjects they teach can encourage girls to get involved in STEM, too.

Following are a number of resources to help encourage girls to foster an interest in STEM learning.

(Next page: How to get girls involved in STEM)

CanTEEN [2] is a project of Carnegie Science Center's Chevron Center for STEM Education and Career Development. In addition to learning more about STEM majors and careers, girls can sign up to meet female professionals who work in STEM fields.

The Center for Science Teaching and Learning [3] is holding the third annual Clean Tech Competition, a global engineering and design challenge for students ages 15-18. Teams from around the world compete for up to $15,000 in prizes. The project-based program engages students in STEM learning and tasks them with addressing real-world problems. Deadline for Round 1 is March 7, so hurry!

The Center for STEM Education for Girls [4] aims to increase girls' STEM participation and encourage girls to pursue STEM careers by creating a consortium of STEM leaders who convene annually to examine best practices in bringing together girls and STEM. It also offers summer STEM experiences for girls and educators.

ForGirlsInScience.org [5] fosters girls' interest in science in a fun and interactive way. It connects girls to women in STEM, summer camps, opportunities and careers, and more.

Girlstart [6] offers year-round K-12 STEM education programs that help girls develop STEM skills, understand why STEM is important, and learn about STEM majors and careers.

The National Center for Women and Information Technology [7] works to increase women's participation in technology and computing. It helps recruit, retain, and advance women from K-12 and higher education through industry and entrepreneurial careers by providing community, evidence, action, and action.

The National Girls Collaborative Project [8] aims to connect groups throughout the U.S. that encourage girls to remain interested in, and participate in, STEM activities and careers.

Techbridge Girls [9] provides training to school districts and partners to build capacity for STEM teaching in after-school and summer programs. In addition, it works with 17 Girl Scout councils across the nation through its Girls Go Techbridge partnership.

YouthRadio [10]: This program aims to work with youth and educate them, through training and experience, in digital media and technology.


The report put forth a number of recommendations to sustain girls' interest in STEM, including:

- Encourage young girls to ask questions about the world, to problem solve, and to use natural creativity through play, creativity, and experimentation
- Foster girls' internal assets such as confidence, self-esteem, initiative, and a work ethic
- Expose girls to people who have careers in STEM, so they can observe firsthand what these careers are, and what they can offer
- Keep girls interested and engaged in STEM over time and beyond transition points
- Show girls that what they want out of their careers can be achieved through STEM
- Steer clear of obvious or subtle stereotypes about girls' and women's abilities in math and science

Many of these recommendations apply to the early grades and the practices that can be implemented at an elementary level.

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STEM education is important—in fact, it is essential to U.S. economic success. Today's K-12 STEM students are tomorrow's college STEM undergraduates and leading STEM innovators in the workforce. Most STEM fields are traditionally male-dominated, and research has found that fostering an interest in STEM learning when students are still young makes those students more likely to continue their interests in STEM fields. The stereotype that girls' and boys' interests are different is holding the third annual Clean Tech Competition, a global engineering and design challenge for students ages 15-18. Teams from around the world compete for up to $15,000 in prizes. The project-based program engages students in STEM learning and addresses real-world problems. Deadline for Round 1 is March 7, so hurry! The Center for STEM Education for Girls aims to connect girls to women in STEM, summer camps, opportunities, and more. Girlstart offers year-round K-12 STEM education programs that help girls develop STEM skills, understand why STEM is important, and learn about STEM majors and careers.