



# It's Personal!

## *Getting Girls into STEM*



[www.tinyurl.com/WPIGirlsInSTEM](http://www.tinyurl.com/WPIGirlsInSTEM)



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# The Problem...

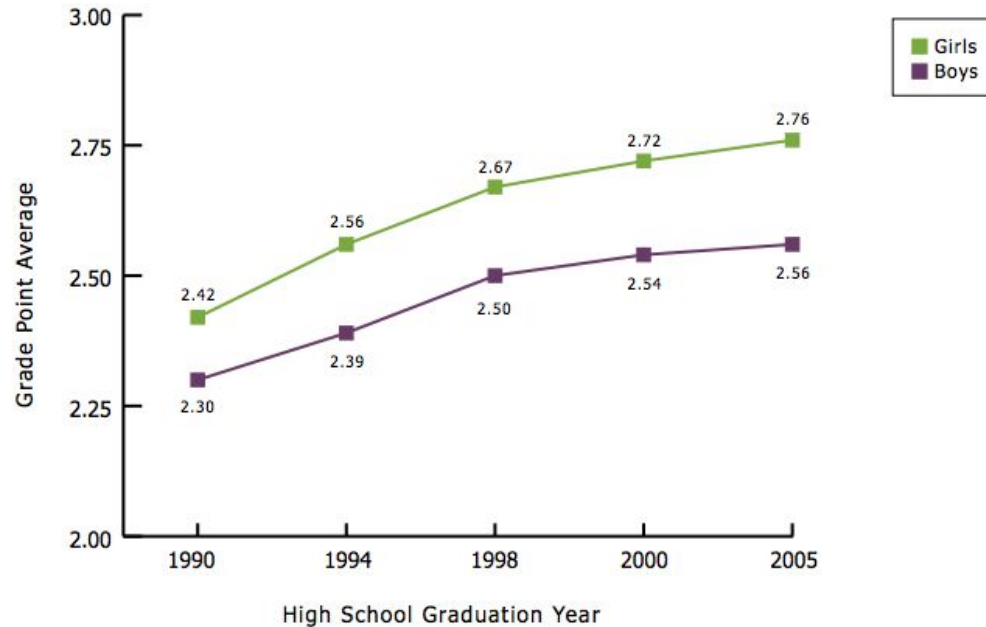
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Today, the majority of college graduates (57%) are women—and nearly half (48%) of this country's workforce is comprised of women. Yet, women account for only 20% of bachelor's degrees in engineering, computer science and physics.

*Generation STEM, 2012 by Girl Scouts of the USA*

**Figure 2. Grade Point Average in High School Mathematics and Science (Combined), by Gender, 1990–2005**



Source: U.S. Department of Education, National Center for Education Statistics, 2007, *The Nation's Report Card: America's high school graduates: Results from the 2005 NAEP High School Transcript Study*, by C. Shettle et al. (NCES 2007-467) (Washington, DC: Government Printing Office).

Are girls not capable?

Although experts increasingly call for science, technology, engineering, and math (STEM) education to begin in middle and elementary schools, a 3-year intervention beginning with high-achieving female high school sophomores demonstrated that young women can develop a serious interest in engineering in high school. However, subsequent post-high school study of the participants showed that interest in engineering was not enough for lower-income minority women to pursue engineering in college. It should be noted that their decision against pursuing engineering in college was not due to their lack of academic preparation or interest in the field, but to a lack of financial resources and social support for engineering, as well as fears of failure. Career counselors and college recruiters have an important role to play in the recruitment and retention of girls of color in engineering and other STEM college majors, including facilitating support and access to appropriate programs and resources at pivotal times.

## Fear of Failure



**68%**

of female respondents said  
a teacher or class got them  
interested in science, technology,  
engineering or math.

Does a teacher have influence?

# The Big Takeaway:

## *Focus on Relationships*

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# Building Relationships

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Connecting Upward → Professionals

Connecting Across → Other High School Students

Connecting Downward → Outreach to Younger Girls





Form a Girls in STEM Club



# Establish a Social Media Presence



The picture doesn't do it justice. Best model house I've ever seen! In @PLTWorg #CEA by model student @SierenStevie!



8 yrs of #PLTW & 4 different courses. The #POE marble sorter is still my favorite. This year's group is rocking it.





# Host/Attend Special Events

*especially near enrollment!*

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## Girls Ignite



## Perry Ortho



# Hour of Code

*Host at your school, or take girls to run an event for younger girls*



“I always did something I was a little not ready to do. I think that’s how you grow.”

— Marissa Mayer, CEO, Yahoo!

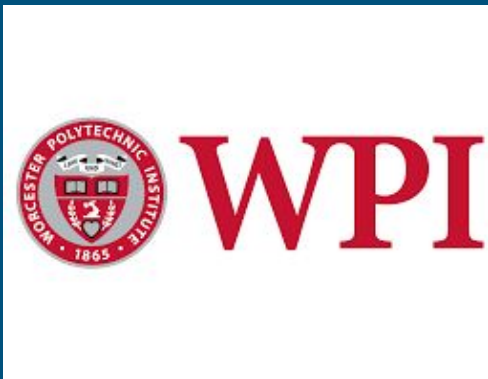
Anybody can learn!  
Start with an Hour of Code  
<http://code.org>



The image features a portrait of Marissa Mayer, CEO of Yahoo!, smiling. To her right is a quote in a large, dark font. Below the quote is her name and title. At the bottom left, there is a call to action in white text on a dark background, including the URL 'http://code.org'. At the bottom right is the Hour of Code logo, which consists of four squares containing the letters 'C', 'O', 'D', and 'E'.

# WPI Pre-Collegiate Programs

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# Introduce a Girl to Engineering Day

*Link goes to Nitsch Engineering website with a huge list of events!*



# Girls in Engineering Pizza Party





# Young Eagles Flights / Aviation Club

*Link goes to EAA Chapter 106 - Greater Boston Area*





# Field Trips → Helping People

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*Click on image for Habitat for  
Humanity - Boston Chapter*

# Job Shadowing and Internships

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# Connecting with Feeder Schools





# Mom-Daughter Breakfast

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# Breakfast with the Experts

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# DIVAS Summer Camp

*Design and Innovation Via Applied Science*





# Girls App Camps

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# Camp Invention

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# Engineers Without Borders

*Link goes to EWB - Boston Chapter*

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# All Girls Sections of Courses



Greg Thiel  
Shawnee Mission South (KS)

Female Enrollment in PLTW Courses for SMS			
	2013-14	14-15	15-16
IED	11%	25%	26%
POE	0%	12%	22%

# Online Promotional Materials

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[CodeGirl](#) movie

[Girls in STEM](#) (from the White House)

[Inspiring Girls and Women in STEM](#) (from Intel)

[Smart Girls in STEM](#) (from Amy Poehler's Smart Girls)

[Growing up in STEM - as a Girl](#) (TED Talk)

[Go Girl!](#) (4:00) and [Go Girl!](#) (10:00) (from PLTW)

[Dream Big](#) (Feature Film)

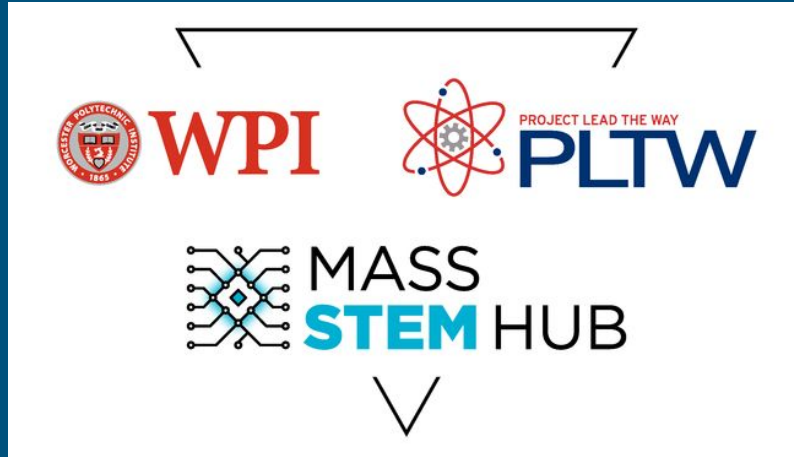
# Websites and Organizations for Mentors

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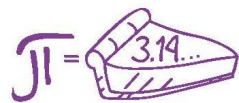


# Connect!

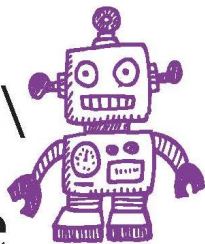
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Girls in



stem (noun) \stem\



a strong, natural structure

that <sup>must</sup> grows <sup>✓</sup> in order to give <sup>our</sup> a

plant a fighting chance.



<sup>e</sup>

$$E=mc^2$$



KC  
S T E M  
Alliance

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# Start Early!



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