

# Top 10 Ways To Encourage Girls In STEM

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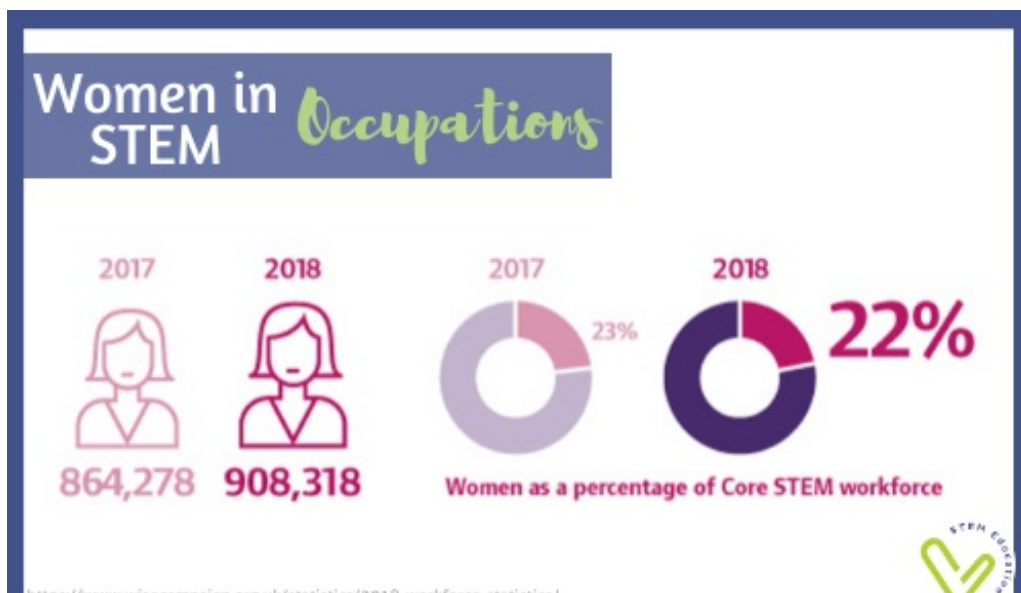
Vivify STEM


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*Guest post by Maria Garza.*

Girls belong in STEM too! Did you know that there is a massive disparity in the number of women in STEM careers compared to men? And that especially applies to leadership positions. Fortunately, there is an effort to educate people that this imbalance exists and to change the way we talk about STEM to our young women. Read on for our top 10 ways to encourage girls in STEM.





Statistics on women in core STEM occupations.

I decided to write this post because as a woman in STEM, I believe this effort is important. Currently, I work as a researcher within a neuroscience lab. I know that women face different pressures and challenges when pursuing STEM careers that perhaps aren't immediately obvious. Because I have experience dealing with these issues, I came up with these 10 pieces of advice for how we should be talking about STEM to young women and girls.

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## How do you encourage young girls interested in STEM?

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### **1) Immediately respond with encouragement!**

There is a stereotyped belief that STEM requires extremely competitive individuals and that women are by nature not as competitive as men. This perception is highly biased by sexism and is not an accurate representation of what STEM progress really needs. At the end of the day, science relies on diligence, ingenuity and work ethic. These are skills, not gender-based traits.

### **2) NEVER tell her that she will have to choose between STEM and a family.**

This is the number one complaint I hear at “Women in Neuroscience” rallies every year. I have listened to countless examples of mentors who mean well question a woman's dedication and insist that if they want a family, they do not have what it takes to be a successful scientist. This simply is not the case. There are very many women and MEN with families in STEM who are highly successful.

### **3) Don't just tell her, show her real examples of successful women/mothers in STEM!**

Since these misconceptions still exist, she may need more than just your encouragement to convince her that having a family and being in science is possible. Something you can do is show her, or even better, *introduce her* to a woman in STEM. Finding someone who can share their experience and answer her questions may help dispel any doubts she has in what she is capable of accomplishing.

Use this [FREE interview guide](#) to give girls talking points when they speak with a STEM professional. Have them do a formal or informal interview to present to their class, family, or friends.

### **4) Help her find a role model!**

10 Tips for Encouraging Young Girls Interested in STEM | STEM | 101

Not only are there countless examples of successful women in STEM, but there are women who are **changing the world**. Role models like this can provide young girls with inspiration and motivation to pursue their dreams.

**Women in STEM** *Role Models*

Adriana Ocampo  
Planetary Geologist

August Ada King of Lovelace,  
Mathematician

Katherine Johnson,  
NASA Space Scientist

Florence Nightingale  
Reformer & Statistician

Grace Hopper  
Inventor and Computer Scientist

Radia Perlman  
Inventor and Computer Scientist

Rebecca Cole, MD  
Health Reformer & Doctor

Roberta Bondar  
Astronaut Neurologist

**Women in STEM Do Change the World**  
[ayogo.com/blog/women-in-stem](http://ayogo.com/blog/women-in-stem)

Women in STEM from [www.internationalwomensday.com](http://www.internationalwomensday.com).

**5) Show her how STEM impacts the world.**

There is a general bias to value careers like medicine and politics where individuals can have a direct, positive influence on the well-being of others. But the truth is, nearly every aspect of society relies on some STEM findings and endeavors. Our doctors need medicine developed by scientists, even politicians need a background in “political science”. Young girls should know that by pursuing a STEM career, they

are helping their communities and the world.

### **6) Give her experience!**

Sometimes STEM can be intimidating. I know from experience that some science and math courses in school are very difficult. Because of these challenging classes, sometimes students question their compatibility with STEM careers. Unfortunately, STEM classes in school are not really a good indicator of what working in STEM is like. If she is feeling hesitant or discouraged, maybe help her get some experience. Find a STEM summer camp, or an after-school club, or even arrange for a tour at a laboratory or somewhere she is interested in working. Show her that even though some of the aspects of STEM are challenging, there are likely things that she excels at easily and not everything about science is hard.

### **7) Help her narrow down what she wants to do.**

I grew up with a love of discovery, but it took me many years to finally narrow my true interest in neuroscience research. The main cause was a lack of exposure. If you are mentoring a young woman who has a passion for learning and discovery, you can help her narrow down her focus by EXPOSURE to as many different careers and fields as you can manage. Look at programs offered by schools and what they require. If something looks interesting, encourage her to read and watch videos. An excellent source for this type of exposure is TED talks on YouTube.

### **8) Help her develop skills she will need!**

STEM is rapidly changing and advancing. Most of the fields are in a stage of innovation that is incorporating the advances made in the computing industry. Unfortunately, most K-12 education does not reflect this development and the majority of high school graduates are unprepared to fulfill the technical requirements needed to excel in STEM. Something you can do to help a young girl interested in STEM is to encourage her to develop her computational methods by taking classes in high school.

[Coursera](#) has a variety of [FREE computational science and computer programming classes](#) that you can do at your own pace. There is even an option to purchase a completion certificate that you can include in your resume.

### **9) Encourage her to get involved with internship work in her field of interest ASAP.**

Many STEM careers are now making experience mandatory for entry-level positions. This means that it is necessary to start volunteering or interning during the first or second year of college. If you are mentoring a young woman preparing for college, PLEASE tell her to find a research lab or STEM department to begin work with at least

by sophomore year. If she doesn't start soon, she will likely have to spend time after graduation getting paid very little (or nothing at all) to just get the required experience.

### **10) Make it fun!**

Students, parents, and teachers can sometimes get caught up in the whirlwind of getting good grades, fulfilling resume requirements, and piling on extracurricular activities that they forget how important it is to keep it fun. To this day, the thing I like best about my job, even though it is very challenging, is that it is still exciting for me. I love coming up with new ideas and testing them in the lab and finding interesting results to share. I believe that if we can help preserve the awe and enjoyable aspects of STEM for our young women, we will very soon overcome the gender disparity in STEM which not only benefits our young girls but the whole world!

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*Maria Garza is a graduate research assistant and PhD student with the Neurobiology program at UTSA. She works with animal models to study how molecular mechanisms in the brain impact behavior and cognition. As a scientist, wife, and mother she hopes her example can encourage other women and girls interested in STEM. Maria is also the founder of Women In Neuroscience a public platform where women share their experiences in neuroscience, in order to create an atmosphere of support.*





