



Tips for Adults

Generation STEM: What Girls Say about Science, Technology, Engineering, and Math/ Girl Scout Research Institute

In the Girl Scout Research Institute study *Generation STEM: What Girls Say about Science, Technology, Engineering, and Math*, we found that a high number (74%) of teen girls are interested in STEM subjects and the general field of study, and that they're drawn by the creative, hands-on aspects of these subjects. Further, while girls aspire to STEM careers, these careers aren't necessarily girls' first choice at this time. Girls need more exposure to and better education about what STEM careers are and what they can offer if such careers are to gain priority status.

Parents, other family members, teachers, mentors, and advocates for girls can help with education and exposure, as well as encouragement, so that girls develop the internal assets they need to take on and excel in these innovative, world-changing careers now and in the future.

Tip 1: Girls are interested in STEM! Talk to them like they are.

This research suggests that, compared to past generations, the current generation of girls can be and possibly will be the STEM experts of the future. Let's get on board with this concept and encourage our girls to become a part of it, rather than expressing and acting on outdated and traditional views that don't support girls and women pursuing STEM.

Tip 2: Encourage girls to ask questions about the world, experiment, and problem solve. Get girls involved in activities that will foster their STEM skills.

This study shows that a high percentage of girls interested in STEM fields like to solve problems (85%), build things and put things together (67%), do hands-on science projects (83%), and ask questions about how things work and find ways to answer these questions (80%). Girls enjoy the hands-on aspect of exploration and discovery, which is something many children enjoy. (They're budding scientists!)

Adults would do well to encourage young girls to inquire about the world, solve problems, and to use their natural curiosity, creativity, and experimentation when at play. You might encourage a girl to understand how things grow in a garden, what things look like under a microscope, how to measure ingredients to bake a cake, or how to build a piece of furniture from IKEA. Satisfy her questions about why the sky is blue and why the sun goes down at night. Find the answers together. This inquisitiveness and fun can lead to innovative and enjoyable work in the future.

Girl Scouts of the USA and other youth organizations offer many opportunities, such as science and engineering camps and robotics teams, that let girls learn by doing. And because these activities take place in all-girl, less-obviously-academic settings, girls feel more comfortable. Getting girls involved in STEM activities will foster their skills in these areas and develop other internal attributes such as motivation, work ethic, curiosity, patience, and confidence. It will also help them learn how to handle their frustration when things go wrong.



Tip 3: Educate yourself about STEM opportunities and show girls they can achieve their goals through STEM careers.

Girls say they don't know a lot about STEM careers and the opportunities afforded by these fields. For example, a high 60 percent of girls interested in STEM say they know more about other careers than they do about STEM careers. Not surprisingly, this percentage is even higher for girls who say they're not interested in STEM (79%). There's plenty of room for education here, and this education can come from adults like you. Our research finds that girls who are interested in STEM fields are more likely to have parents who are interested in STEM, parents who have encouraged their daughters to pursue these fields.

Additionally, girls want to make the world a better place and help people, but they may not understand how STEM careers help people, or how their STEM interests can further their goals of helping people. Nearly all girls (88%) want to make a difference in the world and to help people (90%), but only 13 percent of girls interested in STEM name a first-choice career in these fields. Girls do well in math and science, yet many don't know their full range of career possibilities; many don't know what engineering actually is. Educate yourself about career prospects in STEM. The more you know about these fields and related opportunities, the more you can educate girls about the many career possibilities; perhaps you'll even change some of your own perceptions.

Tip 4: Expose girls to experts and mentors in STEM fields.

Our research shows that girls who say they have STEM interest have been more exposed to professionals in this area and know about the fields. Two-thirds (66%) of girls interested in STEM say they know someone in a STEM career, compared to 47 percent of girls not interested in STEM, and half (53%) of those interested say they know a *woman* in a STEM career, compared to 36 percent of girls without STEM interest. On the other hand, girls who express a lack of interest in STEM say they know more about other careers than they do about STEM.

Exposing girls to people with careers in STEM is clearly beneficial to them; they're able to observe first-hand what these careers are and what they offer. Girls can see the kinds of people who have chosen STEM careers and begin to develop relationships with them. Girls can recognize how women in these fields have succeeded and overcome obstacles, and as they get older and start planning for college, they will look to mentors in these lines of work to answer questions about choosing college coursework and steering their STEM interests toward STEM majors in college, on to eventual STEM careers.

Tip 5: Develop girls' confidence and their "inner resumes" so they'll have what it takes to become STEM experts.

Foster girls' internal assets, such as confidence, self-esteem, initiative, and work ethic. This can make girls feel successful and capable when it comes to interest in STEM fields—and anything else they set their minds to and have traditionally been steered away from. Girls do just as well in math and science as boys do, but their confidence in their math and science abilities is lower than boys'. When girls feel capable and confident in their abilities, they're more likely to challenge themselves and overcome any obstacles along the way. Internal assets are just as important as experience, exposure, and education, with confidence in one's abilities in math and science the key to moving forward in a STEM field.

Girls should embrace their knowledge and abilities rather than be influenced by what society says girls should and shouldn't be. And it's important that adults remind girls what they're capable of—and that their roles in life are limitless!