

Keeping Doors Open: Girls, STEM & Their Future Careers

What Parents Can Do



When it comes to STEM, we have a long way to go to balance the equation for girls' and women's participation. Girls continue to receive messages that STEM isn't for them and may be closing the door on STEM careers as early as Grade 8. As a result, girls could be limiting their career potential and pathways, particularly as the economy and workplace evolves. And as a society, we could be missing out on generations of future innovators and problem-solvers.

Girl Guides of Canada set out to explore what the pathways to STEM careers and skills look like for girls under 18, and how this relates to girls' preparedness for the future of work.

We learned that girls might be prematurely closing doors to STEM for three main reasons:

1. Girls continue to receive messages that STEM isn't for them. Influences from parents, peers, teachers, media, and society at large continue to subtly – and not so subtly – tell girls that they shouldn't (or can't) be interested or succeed in STEM subjects.

2. Girls may not be aware of the steps they need to take to open certain doors. In many cases, girls need to start making decisions as young as age 13 that can impact their ability to pursue STEM fields in the future. But they might not be equipped with enough information to make informed decisions at this early age.

3. Girls may not realize many of the doors even exist. There are a wide variety of STEM fields and entry points into those careers, many of which girls may not be aware of. We know that girls are often interested in careers that help people, make the world a better place, and that allow them to be creative, but often aren't aware this is possible through STEM.



WHAT CAN YOU DO?

How can we empower girls to keep their options open to even get into the STEM pipeline, and not prematurely close doors? There are steps we can all take to support girls to make informed and empowered choices for their futures.

Encourage girls to keep their options open

- **Support course selection:** When selecting high school courses, encourage your daughter to keep her options open by taking math and science – and especially the more advanced courses, if you're in a province that has course streams. This will mean more doors will be open to her when it's time for post-secondary applications.
- **Think about skills:** Planning for the future doesn't have to mean focusing on a specific career or job. Girls can choose to focus on the types of skills they want to build and use.
- **Encourage multiple career options:** Many kids will be undecided about the direction they want to go in, especially when they're making course selection decisions so young. It's okay if your daughter isn't sure or has multiple ideas. Help her keep her options open so she's not stuck on a set course that's difficult to reverse. The reality is, most people today will have multiple careers over their lifetime.

Foster curiosity

- **Build things:** Buy toys that encourage girls to be creative builders. Take time to show girls how things are made and how

they work. Have an old piece of tech or an old toy? Have her take it apart and try to put it back together. Try out a Girl Guides activity at home like **Take It Apart**, where girls can pick up tools to deconstruct some appliances to find out what's inside and how it works.

- **Integrate tech in an educational way:** Tech doesn't have to just be about social media or streaming content. Encourage girls to use tech and digital spaces purposefully in their many different interests. For example, are you going for a hike? Look up online maps beforehand and talk about how satellites work.
- **Encourage experimentation:** Does your daughter ask a lot of questions? Encourage it! Get her to hypothesize an answer to her questions, then test that hypothesis to see if it holds true. She's learning how to experiment and test theories!



Be open to learning yourself

- **Explore today's educational and career paths:** We're all constantly learning. Be open to continue to learn about new and different educational and career pathways so you can support your daughter to make informed and empowered choices.
- **Educate yourself on the future of work:** The future economy will look different, so you might need to reframe how you think about career planning and job security for your daughter. Educate yourself on the skills and industries that are growing. For example, explore how artificial intelligence and automation are changing the workforce and how this will impact the skills young people need to thrive in the future.
- **Learn about tech:** Build your own digital literacy and technical skills and invite your daughter to join you or teach you. Again, girls using tech isn't just about social media or streaming content – it can be about solving problems, from the everyday to the complex. Not sure where to start? Check out Girl Guide activities like [Binary Basics](#) to get crafty while learning about code, or [Bugbot Builder](#) to build a machine that moves.

Have conversations

- **Rethink how you talk about STEM:** If the topic comes up, be mindful of the vocabulary you use to talk about STEM. For example, sometimes words like “science,” “technology,” and “math” have negative or inaccurate associations for kids. Instead you can talk about STEM as subjects that are creative, help people, and make the world a better place – especially if you know these are motivators for your daughter.
- **Ask about school:** Have open conversations about school where you ask your daughter what she's learning and what she's interested in. Look for

signs of the types of subjects and skills she gravitates towards.

Look for opportunities for her to explore what's out there

- **Delve into different career ideas:** Find spaces for your daughter to explore different options for school and careers. For example, many colleges or universities hold STEM outreach events for kids on campus. Or how about taking a field trip to explore STEM somewhere you wouldn't normally visit – like the local water treatment plant or the office of a tech company?
- **Seek out extracurriculars:** Look for extra-curricular activities that expose girls to STEM. For example, look into STEM clubs, coding camps, or special events or competitions. [Girl Guides can be a great space](#) for girls to explore STEM skills and activities through our girl-driven programming.



Find inspiring mentors and role models

- **Connecting mentors:** Find examples of successful women in STEM and other non-traditional roles, particularly if they come from your neighbourhood or cultural community. Could your daughter meet with them to have a conversation, or shadow them at work?
- **Role models online:** Be mindful of where girls aren't seeing themselves reflected and use social media as a tool to fill this gap. If you're looking for inspiration, check out GGC's [Spotlight on: Engineering video series](#), featuring girls and women who are blazing new trails in engineering, plus activities you can follow along with.

Cultivate a growth mindset

- **Model growth:** Push yourself and the girls in your life to pursue things outside your comfort zone. Encourage a spirit and joy of learning and exploration, not just top marks.
- **Use positive problem-solving language:** Instead of focusing on issues, barriers, or failures, approach challenges with problem-solving language. For example, start with "how might we" statements to get girls thinking.

Be aware of stereotypes and biases

- **Get to the roots:** Be mindful of the stereotypes and biases about girls' aptitude and interest in STEM subjects. Remember that research shows that boys are not inherently better than girls at math. Challenge girls when they say something isn't for them – ask, "Why do you think so?" Affirm girls' abilities in math and science.



GIRL GUIDES OF CANADA

Girl Guides of Canada–Guides du Canada (GGC) empowers every girl in Guiding to discover herself and be everything she wants to be. In Guiding, girls from 5-17 meet with girls their own age in a safe, supportive and inclusive space to explore what matters to them. Guiding is where girls take the lead, put their ideas into action and jump into a range of empowering activities – all with the support of women mentors committed to positively impacting girls' lives.

Girl Guides offers programming options ranging from cybersecurity activities and science experiments to exploring career options and discussions on feminism and gender inequality. We focus on equipping girls with twenty-first century skills that are transferrable to other areas of their life, such as building problem-solving skills through the engineering process, or hypothesizing through forensic-science inspired investigations. This programming is delivered in a safe, all-girl space that is designed to address the roadblocks and stigmas girls might encounter elsewhere in their lives. Girls in Guiding develop the skills to confidently navigate the world and grab hold of every opportunity that comes their way – now and in the future.

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For inquiries, contact advocacy@girlguides.ca

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