



Girl Scouts: Girls Changing the World Through STEM

Girl Scouts of the USA is the premier leadership organization for girls. Our mission is to build girls of courage, confidence, and character, who make the world a better place.

Girl Scouts' approach to science, technology, engineering, and math (STEM) is unique because:

- **It's framed in leadership**—specifically, using leadership skills to make the world a better place. Research suggests that girls are more interested in STEM careers when they know how their work can help others.
- **The Girl Scout Leadership Experience intentionally engages girls via three unique processes:** girl-led, learning by doing, and cooperative learning. Here's how these processes are important in providing quality STEM experiences for girls:
 - **Girl-led:** Even if a girl likes STEM, she might find that boys take the lead in a school environment due to unspoken assumptions about gender roles. Girl Scouts offers a safe, supportive place for girls to seek challenges. This process encourages girls to decide which topics they want to explore and how they want to go about it.
 - **Learning by doing:** Research shows that, particularly with STEM, girls need to be hands-on, active learners, which this process encourages. In addition, our learning-by-doing process involves a reflection step that asks girls to think about how a given activity worked and what they would do differently in the future—a key skill in scientific testing and conducting experiments.
 - **Cooperative learning:** In general, girls prefer a collaborative leadership style, rather than the traditional, top-down, “command-and-control” style. This process gives girls the opportunity to develop their leadership skills in the way that makes them most comfortable.

National Program Portfolio: Leadership Journeys and Badges

Our goal is for every Girl Scout to explore different aspects of STEM each year. How do we do this? By offering “fun with purpose” through our K–12 national program. The program includes two curriculum resources: National Leadership Journeys and National Proficiency Badges.

Leadership Journeys

Leadership Journeys are core to Girl Scouting because they teach girls to uncover what they care about most and to change the world. Girls explore a variety of interests along a Journey, everything from the arts to the outdoors to—of course!—STEM. There are three Leadership Journeys:

- **It's Your World—Change It!**
- **It's Your Story—Tell It!**



- **It's Your Planet—Love It!**

Here are some examples of what girls are doing as part of the It's Your Planet—Love It! Journey:

- Girl Scout Daisies explore the world of nature.
- Girl Scout Brownies learn about the water cycle.
- Girl Scout Juniors do building energy audits.
- Girl Scout Cadettes learn to assess air quality.
- Girl Scout Seniors calculate their “food print” and learn kitchen science while preparing a locavore meal.
- Girl Scout Ambassadors “do the math” to figure out how much trash is created and how to reduce it.

Proficiency Badges

With Girl Scouting, girls also learn about specific topics by earning badges. Girl Scout badges were recently revamped to reflect girls’ interests and to focus on twenty-first-century skills. Many badges use STEM in fun ways—for example, the Cooking, Artist, and Athlete badges. In addition, several new badge categories specifically relate to STEM:

- **Naturalist** badges invite girls to explore the outdoors. As girls learn to love the natural world, they’re inspired to protect the environment. These badges include Bugs, Flowers, Trees, Sky, and Water.
- Activities linked to **Digital Arts** badges employ girl-friendly topics to help girls build valuable technology skills. These badges include Computer Expert, Digital Photographer, Digital Movie Maker, and Website Designer.
- **Science and Technology** badges connect science to what already interests girls, from the development of video games to the physics of roller coasters to the nanotechnology used in new fabrics. These badges include Home Scientist, Entertainment Technology, Science of Happiness, and Science of Style.
- As girls earn their **Innovation** badges, they solve problems by using methods from many different fields, such as anthropology, engineering, graphic design, and business strategy. These badges include Inventor, Product Designer, Entrepreneur, and Social Innovator.
- **Financial Literacy** badges ask girls to prepare for a sound financial future. Girls learn how to save, spend, and give to others. These 13 badges cover a full K–12 curriculum; Money Manager, Philanthropist, Financing My Future, and Good Credit are a few examples.

Finally, every girl can earn a **Make Your Own** badge each year. This option allows girls to design their own learning experiences (an important skill in becoming a lifelong learner) around any topics that interest them, including STEM.

Together, Leadership Journeys and proficiency badges offer relevant, of-the-moment activities in line with Girl Scouts’ 15 outcomes. These outcomes, which include critical thinking, seeking challenges, and resourceful problem solving, were developed so that all girls can acquire the skills to be leaders in their daily lives and the world. Our leadership outcomes aim at giving girls the confidence to pursue STEM careers. Our STEM program gets them excited about how they can use STEM to make a difference. The end result: girls changing the world through STEM!



Special Partner Initiatives

Through partnerships and sponsorships, Girl Scouts offers girls additional unique ways to experience STEM, including opportunities to delve deeper into STEM-specific issues. Our partners and sponsors help us by:

- **Connecting girls to a worldwide movement.** Girl Scouts uses its global reach through programs such as Girl Scouts Forever Green—Girl Scouts’ 100th Anniversary Take Action Project. This initiative encourages girls to lead their families, schools, and communities in improving the environment and protecting natural resources.
- **Reaching underserved girls.** Some initiatives, such as IMAGINE: Your STEM Future funded by AT&T and Imagine Engineering funded by the National Science Foundation, offer girls from low-income and underserved communities the chance to experience STEM and plan for futures in STEM fields.
- **Providing access to materials and mentors.** Other initiatives, including the *FIRST* teams funded by Motorola, UTC, and Google; and the Journey and Connect Through Technology initiative funded by Dell, give girls access to materials and mentors so that they can explore fields such as robotics and information technology in greater depth.
- **Offering content expertise and career exposure.** Partners such as Ingersoll Rand and NASA provide content expertise and career exposure in, for example, energy conservation and aerospace.
- **Connecting girls to inspiring role models.** Girl Scouts also works with partners like the New York Academy of Sciences, an institution that connects youth with STEM experts and inspires them to pursue STEM careers.