Below are selected ways girls and young women can support themselves in pursuing STEM (science, technology, engineering, and mathematics). The strategies are numbered for easy reference but do not suggest a prioritized list.

1. Be aware that effort and appropriate experiences, rather than natural ability, are mainly responsible for success in the STEM disciplines. Work hard to build your STEM knowledge and skills, and seek good STEM opportunities and experiences. Continue to “stretch” yourself.

2. Take an active part in school STEM activities. For example, handle equipment and tools, such as manipulative materials, calculators, measuring tools, and lab equipment, during learning tasks and serve as group spokesperson as often as other students.

3. Share your thinking and work in class. Be willing to suggest approaches to tasks. Discuss strategies and solutions with classmates and work collaboratively (when permitted) to complete tasks. Ask questions that help you clarify and extend your understanding.

4. Try different approaches to tasks. For example, if you complete a task one way, see if you can complete it using a different method. Consider trying some creative strategies. Similarly, explore how computers work in an open-ended manner and not only by following a set of procedures.

5. Seek to understand how and why things work the way they do. For example, why does length times width give the area of a rectangle? What does the Pythagorean Theorem really mean, and what would it look like if you were to show it with a drawing that starts with a right triangle?

6. Hold high expectations of yourself. Identify your own strengths and weaknesses, and strive to improve your weaker areas of knowledge and skill. Challenge yourself to take on some tasks that seem unclear or difficult. Think of making mistakes as normal human activity that presents good learning opportunity.
7. Join voluntary in-school and out-of-school programs and find and use good print and online resources as ways to improve your STEM knowledge and skills. All STEM areas, such as algebra and biology, are important. However, pay particular attention to areas in which females sometimes perform or participate at lower levels than males: geometry, measurement, spatial skills, earth science, physics, and chemistry. Spatial skills, for example, are important skills used in everyday life and careers such as engineering, and they relate to performance in math. They can be improved by playing sports, doing puzzles, building and taking apart things (using Legos, model sets/kits, etc.), playing games such as Tangoes and Tetris, and so forth. Examples of other things you might do alone or with a friend are to explore high-quality websites, attend a summer camp, or join an in- or out-of-school computer club.

8. Seek help from qualified others when needed, after you have first made a good effort on your own. Also, work collaboratively with peers. For example, join or form study or support groups.

9. If you feel you show promise and are interested in STEM, request to be placed in advanced or additional courses, such as algebra as soon as it is available, optional computer classes, and further STEM courses once you have met the minimum requirements. (Seek parent support for these things, as need be.)

10. Find female role models and mentors, as well as like-minded and supportive female peers, to communicate with in person or in safe online settings, or consult websites and books that feature females in STEM. (Note: Males can also fill these roles. However, it is important to ensure that females are included.)

11. Notice STEM in the surrounding world and seek to know more about how it functions in everyday life.

12. Understand that STEM careers are both appropriate for and available to you. These careers tend to be high paying, fast growing, and high status, and they help improve the world we live in. Educate yourself about STEM careers and what preparation it takes to enter those careers. You might do this by talking with a teacher, a school counselor, or someone who works in a STEM career, or you could research this information in a library or online.

13. Maintain a positive self-image in relation to STEM. For example, realize that you have much potential in STEM and can improve ability with effort. Value STEM contributions to daily life and the world at large. Recognize that you are capable of becoming a mathematician, scientist, technologist, or engineer.

14. Personally address unfair practices and behaviors that take place toward yourself and/or others in school or elsewhere, such as experiencing sexist or stereotypical comments, being held to lower expectations, or having fewer opportunities to participate in meaningful STEM. Speak directly with the responsible person(s) or seek help from an appropriate authority.
See also:
• 10 Tips for Women Students in Science Fields:
These strategies target college women but may also be helpful to younger girls.