



Home Activities

What kinds of activities can families do at home to promote STEM interest, literacy, identity, and confidence?

By encouraging girls to experiment with everyday STEM questions and to explore, use tools, and tinker, families can foster and feed a lifelong love of science, math, engineering and technology.

The links below offer simple STEM activities to do at home using common household items or apps on a phone. You don't need to know a lot about STEM yourself to join in—enthusiasm and interest will go a long way in teaching your girl how to be open to new STEM learning experiences.

- [SciGirls](#)—PBS show following middle-school girls doing STEM research with professional female scientists; includes [at-home activities](#) and [video snippets](#) for discussion; also available in [Spanish](#) and specifically for [Latina girls](#)
- [Science at Home](#)—K-5 STEM activities from Scientific Adventures for Girls that include instructional videos
- [Science Club for Girls](#)—favorite links to STEM activities for home
- [Science Buddies](#)—home science activities using everyday materials with explanations
- [Science-U](#)—at-home experiments and activities from Penn State Summer Science Camps
- [Science Kids](#)—fun science and technology including science jokes, facts, videos, games, quizzes, and projects
- [Scientific American](#)—STEM activities for ages 6-12 with step-by-step instructions and background info
- [How to Smile](#)—STEM projects grouped into 8 broad categories; some require hardware-store-type materials

<https://gems.education.purdue.edu>

Tips for Parents Doing STEM Activities with their Girls

Parents are key role models for girls and subconsciously teach girls attitudes towards STEM even when they don't realize it. Show your daughter it's OK to explore and not know the answer—science is all about problem solving, perseverance, and discovery. It's also OK—even expected—to make mistakes. That's all part of the process.

Even if you don't understand the scientific principles at play when you do an activity, use these activities as an opportunity to do some exploring yourself. Talk to your daughter about your questions. Ask about her questions. Experiment. Play. Do a google search. Have fun yourself. Your daughter is watching!

- [Coding with Google](#)—programs and support for teaching youth how to code
- [Scratch](#) (ages 8-16) and [ScratchJr](#) (ages 5-7)—early coding programs and communities
- [Curiosity Machine](#)—artificial intelligence and design challenges for families to work on together
- [NASA at Home for Kids and Families](#)—a range of activities, some by grade level, some by subject
- [Science Snacks](#)—experiments for K-12 that require some relatively cheap materials such as batteries or wire
- [Discover Engineering](#)—at-home engineering activities
- [Try Engineering](#)—engineering games for K-12, sortable by targeted age, STEM field, and/or category