



Welcome to GEMS

We have two new programs to share,
important research for you,
and another Frequently Asked Question.

We also have new content on our website:
<https://gems.education.purdue.edu>

We hope that you will contribute to our newsletter with your favorite activities or news from your GEMS clubs.

What is GEMS?

GEMS (Girls excelling in Math and Science) began with one mother's concern for her daughter's future in 1994. Since that time we have moved to Purdue University's College of Education in 2018. Many opportunities have arisen, including extensive research proposals, GEMS Day at Purdue with over 100 girls, and web site redesign.

We also have established a [fund to support](#) the long-term growth of GEMS clubs, and hope that you will share this with your supporters.



Introducing

The Ameliators

The Ameliators Program continues the trailblazing legacy of Amelia Earhart through connecting high school students to meaningful STEM-based community service projects, guided by college mentors. Ameliators is a collaboration among three Purdue organizations: [GEMS](#) (Girls Excelling in Math and Science), [Stempower](#), and [EPICS](#) (Engineering Projects in Community Service). GEMS with a vast recruitment network and research base, Stempower with inspiring and relatable college mentors, and EPICS with expertise in connecting students to service-learning, all combine to provide a rewarding experience for high school students.

“To ameliorate” means to improve. The Ameliators Program aims to provide a space for self-growth and learning through STEM-based community service. Launching in Fall 2020, this virtual program will create connections and opportunities in uncertain times. Follow along as we empower high school girls to help their local communities.

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

Introducing

GEMS in a Box

In a time of isolation, quarantine and limited face-to-face school, GEMS continues to support the encouragement of girls in STEM field and careers. We hope that the suggestions and procedures outlined here will inspire you to continue the GEMS clubs and experiences that have served girls so well for over 26 years.

We provide directions for creating and maintaining an online/virtual STEM program that support girls and families in their STEM explorations and continues the rich environment produced by in-person GEMS clubs.

[GEMS in a Box](#)



Frequently Asked Questions

INSTRUCTORS/PARENTS FAQ

Why do we need GEMS clubs and resources?

Since 1994 when the first GEMS club was established, we have worked to create supportive learning environments for girls. As we have learned from our own practice and research, girls are often underrepresented in science, technology, engineering, and math classroom. There are many reasons that contribute to their underrepresentation, but we know that the learning environment is a primary factor that impacts girls' participation and learning in STEM.

Educational research provides evidence that girls are capable as boys in math and science. However, in a mixed STEM learning environment, girls are afraid to “lose face in front of boys” and reluctantly take risks to solve challenges or problems. In hands-on activities, boys are likely to ignore girls' contributions or take over girls' work which discourages girls in pursuing STEM. For example, many studies show that teachers pay more attention to boys or students who “call out” answers, rather than choosing students equitably. Other teachers may use girls as behavior management tools, requiring students to sit boy-girl so that the girls act as role models or conversation stoppers. Moreover, in science and math, some teachers hold lower expectations for girls to perform well than for boys. Girls thus have less external support in developing interests in math and science. In addition, in many science and math classrooms and curricula, activities often take place in stereotypical masculine contexts such as speed of cars and airplanes, which can be of more interest to boys than girls.

In GEMS, girls have authorship of their learning. They do not learn for the sake of teachers or exams but for themselves.

Group work with mixed genders can be problematic, particularly with science and inquiry learning, with many boys taking over the experimental work, leaving the girls to take data or serve as the “recorder” for the group. Many girls tend to hang back in mixed gender groups, thereby losing the opportunity to actively participate in the science or technology or engineering. Girls also tend to stop trying when things become difficult, thinking that they just can't learn it. Presenting STEM as difficult does not challenge many girls; instead it makes these fields daunting and unapproachable.

Many girls come to elementary school with little or no experience with “tinkering”—building with Legos™, helping a parent repair household items or open computers, etc. Girls also may have received many spoken and unspoken messages about STEM from parents, teachers, and television that math, science, and similar fields are not for girls, are too hard or are not valued.

GEMS clubs address all of these concerns and more. When you start a GEMS club, you immediately send the message that girls can do STEM, and that they are valued as a group and as individuals. You provide a risk-free environment where there is no competition other than doing your personal best. Emphasis is on learning and having fun, not being the fastest or loudest. All girls get to do all of the activities, and all girls get to experience success. Girls leave GEMS clubs meeting excited about their experiences and eager to share their learning with others.

Important Research

[Women Doctors Ask: Who Gets to Decide What's 'Professional?'](#)

An important article from the New York Times about gender bias in the medical field.

We want our girls to find fulfillment in the STEM fields we expose them to. But the battles are still being fought, and we must continue to equip them for their futures.

CALL FOR CREATIVE CONTRIBUTIONS

Have some cool pictures and want your club to be the next one featured in our newsletter? Send in your pictures for a chance to be featured next!

[Send your submission](#)

SOCIAL MEDIA LAUNCH

We are now on INSTAGRAM

Go follow us: [GEMS.stem](#) on Instagram!
This new and exciting social media launch is meant for the official sharing of fun news and updates in a more interactive manner for the girls in your clubs. Don't forget to use the hashtag **#GEMSstemCLUB** whenever posting!



College of Education

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 FORWARD EMAIL

GEMS--Girls Excelling in Math and Science

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You received this email because you signed up on our website or
have an active GEMS club.

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