STEM EDUCATION | EDUCATOR PERSPECTIVE

Mary McLeod Bethune Girls Leadership Academy

BRINGING STEM BACK TO A SCHOOL BUILT FOR IT

MICROELECTRONICS CURRICULUM AND COHORTS FUNDED BY THE MIDWEST MICROELECTRONICS CONSORTIUM (MMEC)

> ***It was just such a breath of fresh air, such a relief, because it actually took a lot of work off of me planning extra things.***
>
> **Cristina Stratton**
> SECOND GRADE TEACHER, MARY BETHUNE

> ***Bringing back that exposure to STEM experiences is just setting them up for a brighter tomorrow.***
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> ***This program gives students the opportunity to experience science, technology, engineering, and mathematics in a fun, engaging, and hands-on way.***
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School Profile

Mary McLeod Bethune Girls Leadership Academy is an all-girls school in the Cleveland Metropolitan School District, founded about 20 years ago to give girls rich STEM experiences. From January to April 2026, Girls of Tomorrow served 51 girls in its first and second grade classrooms.

Situation

Over the years, the school's founding STEM focus faded. Second grade teacher Cristina Stratton found the district science curriculum thin and planned her own experiments and garden projects to fill the gap. Her students were ready: on her fall interest survey, every girl named science experiments.

Solution

With funding from the Midwest Microelectronics Consortium (MMEC), Girls of Tomorrow brought a 12-week microelectronics curriculum aligned to the second grade standards. Lessons paired books with hands-on work: building a microchip, circuit kits, coding, and taking apart a calculator. Built-in literacy, discussion, and journaling deepened instruction while easing teacher planning.

Impact

Program days became the highlight of the week. Girls began using science "power words" like **hypothesis** and **experimenting**, designed inventions in their journals, and began to challenge the belief that "men are scientists, or only boys are good at math."

The MMEC Partnership

MMEC funded the curriculum and cohorts, reaching 115 girls across three Ohio sites in 2026. Its ongoing support is building an early pipeline of girls who see themselves in the microelectronics workforce.

MMEC SPRING 2026 RESULTS AT MARY BETHUNE

60% → 98%	66% → 94%	1 → 6	92%
of girls understood how a microchip works	agreed "anyone can be an engineer"	girls naming a deep-tech STEM career	of girls completed the program

Results are from the Spring 2026 MMEC-funded cohort pre/post evaluation at Mary Bethune (51 girls engaged, 47 with matched pre/post data). Results show change during the program, without a comparison group.

IN HER WORDS | EDUCATOR INTERVIEW

A Conversation with Mrs. Stratton

"THAT'S WHAT SCHOOL REALLY SHOULD BE ALL ABOUT"

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EDUCATOR	ROLE	SCHOOL	PROGRAM
Cristina Stratton	Second Grade Teacher	Mary Bethune, CMSD	MMEC Cohort, Jan-Apr 2026

Cristina Stratton teaches second grade at Mary McLeod Bethune Girls Leadership Academy, and science is her favorite subject to teach. Six months after the MMEC-funded Girls of Tomorrow microelectronics program wrapped up in her classroom, she sat down to talk about what she saw.

Q Why was it important for your students to take part in Girls of Tomorrow?

A Science is such an important focus for girls. When you brought the program to our school, I felt like my curriculum was actually lacking in science. I've always had to supplement with gardens and experiments of my own.

This program was aligned with the standards we're supposed to be teaching in second grade, and it brought so many hands-on, fun activities. It was such a breath of fresh air, because it took a lot of planning off of me. Every activity was meaningful and thoughtful, and the books that introduced each topic were so appropriate.

Q What impact did you see the program have on your students?

A They were excited. I would write it on our special calendar, "Today: Girls of Tomorrow," and the whole class would erupt in a cheer. Girls love hands-on experiences, especially when they can collaborate with others. Sometimes they didn't even realize they were learning; they were just having fun. That's what school really should be all about.

Q What skills, confidence, or interests did you see grow?

A Scientific discussion really improved. The girls loved science, but they weren't vocalizing it. I loved hearing them use "power words" like experimenting and hypothesis. And the journals were wonderful: they created their own inventions and labeled diagrams, combining science and writing, and they were proud to share them at the end.

> ***"When they have these rich experiences at a young age, they're like, 'Oh, well, I can do that too.'"***
>
> CRISTINA STRATTON, SECOND GRADE TEACHER

Q Why does early STEM exposure matter for young girls?

A Our school was founded 20 years ago to offer girls rich experiences in science, technology, engineering, and mathematics, and over the years that has gone by the wayside. Bringing that exposure back sets them up for a brighter tomorrow. It may trigger an interest in a career they never even thought about.

Girls sometimes feel that men are scientists, or only boys are good at math. Early experiences get rid of those gender stereotypes and show girls, "You can do anything."

Q What surprised you most about the experience?

A I had never had a group come in and think about, "What do kids need?" They need exposure to literacy. They need hands-on. They need discussion. They need journaling. Every aspect of what I plan in a lesson was planned out for me. It was really well done.

Q What's next for Girls of Tomorrow at Mary Bethune?

A I was so disappointed that we didn't get to be a part of it this year, but we are hopeful still for next semester.

Interview conducted October 23, 2026. Responses are edited for length and clarity.

Girls of Tomorrow

NEXTGEN STEM Girls

STEM EDUCATION | STUDENT VOICES

"I'm Intelligent"

FIRST GRADERS DISCOVER THEY CAN BE SCIENTISTS

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"

At first, I thought I could never learn how to be a scientist. But when you guys came, I learned how to do that.

Timalade
STUDENT, MS. MILLER'S FIRST GRADE

"

I learned that some things are not hard, and I'm intelligent. I can do experiments that I never thought I could, but I could do it.

Timalade
STUDENT, MS. MILLER'S FIRST GRADE

"

I thought if you guys never came, I would never learn how to code.

Andrea
STUDENT, MS. MILLER'S FIRST GRADE

"

I learned to think differently and change what I wanted to be when I grow up.

Andrea
STUDENT, MS. MILLER'S FIRST GRADE

Student Profile

Andrea and Timalade were first graders in Ms. Miller's classroom at Mary McLeod Bethune Girls Leadership Academy, an all-girls Cleveland Metropolitan School District school, when Girls of Tomorrow arrived in spring 2026. Six months later, both still recall it in vivid detail.

Situation

Stereotypes about who can be a scientist or engineer begin taking hold around age 6, and women hold only about 12% of U.S. electrical and electronics engineering jobs. When the program began at Mary Bethune, about one in three girls did not agree that anyone can be an engineer.

Experience

The MMEC-funded microelectronics curriculum gave these first graders a chance to work like engineers. Andrea's favorite moment was the colored-sand art used to explore how microchips are made, and she learned to code for the first time. Timalade loved designing inventions "so that other people can use" them, and launching stomp rockets outside because "I didn't have to stay in my seat." Making a balloon stick to the wall with static electricity made her want to be a detective who searches for answers, and she took the lesson home to her father, an electrician.

What Changed

Timalade now sees herself as someone who can be a scientist and calls herself intelligent. Andrea connects her career dreams to experimenting: trying something new, seeing if it works, and changing what does not. Across Mary Bethune, program content showed up in how girls drew and described themselves twice as often after the program.

MMEC COHORT RESULTS

51	2.2x	34%	115
girls engaged at Mary Bethune	more program content in girls' self-portraits (14 to 31)	of girls made a meaningful score gain (2+ points)	girls reached across 3 MMEC-funded cohorts in Ohio

Results are from the Spring 2026 MMEC-funded cohort pre/post evaluation at Mary Bethune (51 girls engaged, 47 with matched pre/post data). Results show change during the program, without a comparison group. The 12% figure is from the U.S. Bureau of Labor Statistics.