

MfA

For master teachers
of math and science

$$4 \sum_{k=1}^n \frac{(-1)^{k-1}}{2k-1}$$

#MfAProud

2025 — 2026

ANNUAL REPORT

TABLE OF CONTENTS

- 3** Foreword
- 4** MfA Fellowships
- 8** MfA Teaching & Learning
- 12** MfA Impact
- 18** MfA STEM Futures Cohort
- 20** MfA Financials

Foreword

At MfA, we remain guided by a simple but powerful belief: that excellent STEM teaching can transform students' lives and strengthen our schools. Each year, we build on that conviction by investing in teachers as leaders and innovators, and this past year has been no exception.

In the pages that follow, you will see the many ways our community continues to grow and thrive. From the rich programming that brings teachers together in sustained, content-driven collaboration to our ongoing work in admissions and recruitment that has forged a clear path toward reaching 1,000 MfA teachers in the coming school year, this report offers a snapshot of a dynamic and evolving organization.

This year also marked important steps forward in how we prepare for the future of STEM education. We launched the STEM Futures Cohort, a five-year initiative designed to encourage students from low-income families in New York City to pursue STEM majors in college. We convened teachers and staff to begin shaping an organizational AI strategy, ensuring that MfA thoughtfully engages with new technologies and connects our work with broader conversations and expertise in this rapidly developing space.



At the same time, we continue to strengthen the foundation of our organization. We are grateful for the ongoing additions to our Board, whose leadership and perspective help guide our work and expand our reach. And as always, we are focused on understanding our impact more fully as we continue to share data on our programs and develop new approaches to evaluation.

What remains constant is the extraordinary teacher community at the center of this work. MfA teachers lead with deep content knowledge, curiosity, and a shared commitment to their students and to one another. We are proud to support their work and to learn alongside them.

Maria Klawe, MfA President



MfA FELLOWSHIPS

Master Teacher Fellowship

The MfA Master Teacher Fellowship is a four-year fellowship for New York City K-12 public school math and science teachers that comes with \$60,000 in stipends. In the fall of 2025, 109 Master Teachers began their first fellowship with MfA. Approximately half of the incoming cohort taught mathematics, and the rest covered other scientific disciplines, including computer science. Roughly 70% of the incoming cohort had applied for the first time, with 30% having applied previously. Admissions from elementary, middle, and high schools closely mirrored proportions at MfA overall at 7%, 26%, and 67%, respectively. About 84% of the incoming cohort worked in traditional city schools, with charter schools accounting for 5%, and the rest representing specialized and consortium schools. Manhattan was the borough with the largest representation (32%), followed by Brooklyn (29%), the Bronx (19%), Queens (16%), and Staten Island (4%). High-poverty schools accounted for 65% of schools. Master Teachers who complete a four-year fellowship are eligible to apply for additional fellowships, called Master Teacher II+ Fellowships.

Master Teacher II+ Fellowship

The MfA Master Teacher II+ Fellowship is a four-year fellowship for accomplished teachers who have previously received an MfA Master Teacher Fellowship. Teachers can receive up to five fellowships with MfA, including their first Master Teacher award. In the fall of 2025, 203 teachers began a new Master Teacher II+ fellowship, including 94 teachers starting their second fellowship, 58 starting their third, 44 starting their fourth, and seven starting their fifth.

MfA FELLOWSHIPS

I	397
II	244
III	264
IV	61
V	16

MfA COHORT

2022	214
2023	259
2024	198
2025	312

Emeritus Program

Those who do not receive an additional fellowship can continue to participate in the professional learning community at MfA through the MfA Emeritus program. MfA Emeritus teachers can take and propose courses, and they have access to other professional growth opportunities and benefits. In the fall of 2025, MfA admitted 199 new teachers to the Emeritus program.

982

MfA TEACHERS

199

EMERITUS TEACHERS

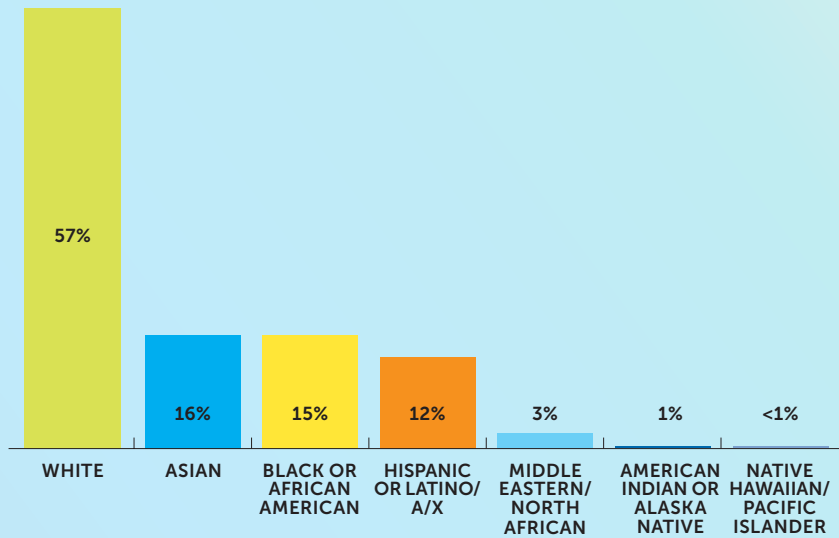
1,181

TOTAL TEACHERS



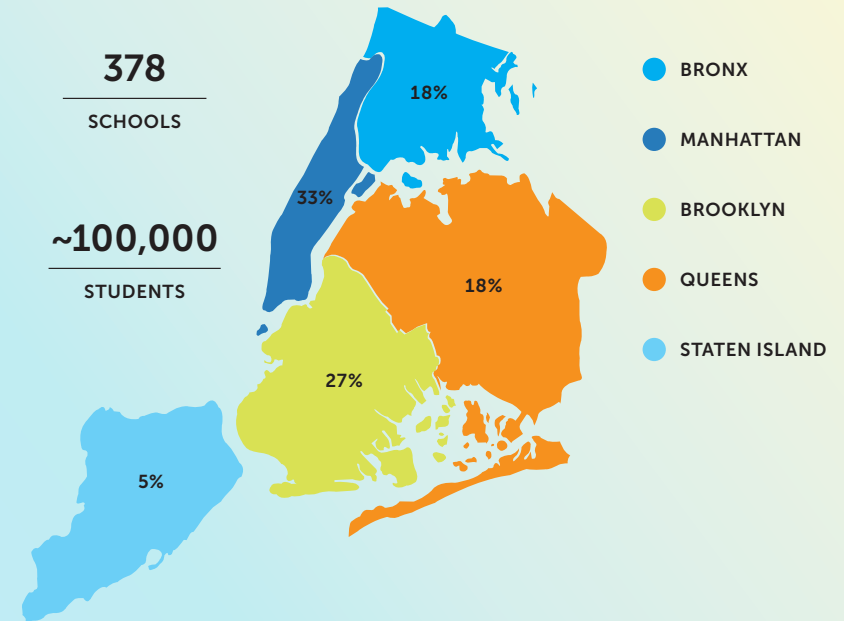
The rich programming that brings teachers together in sustained, content driven collaboration and our ongoing work in admissions and recruitment has forged a clear path toward reaching 1,000 MfA teachers in the coming school year.

TEACHER DEMOGRAPHICS

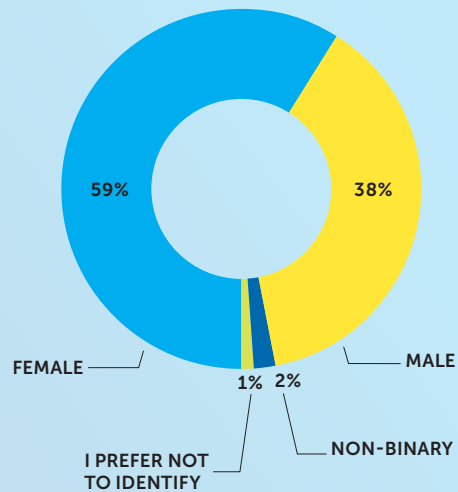


5% - I PREFER NOT TO IDENTIFY

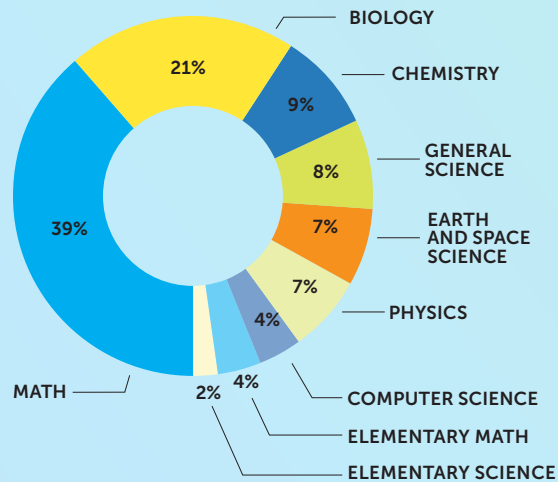
BOROUGHES



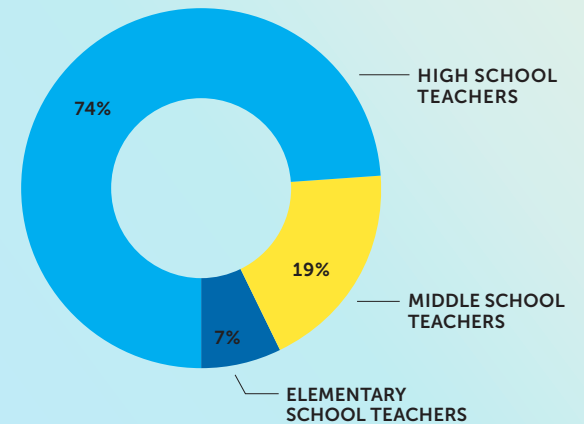
GENDER IDENTITY



SUBJECTS



GRADE LEVELS





MfA TEACHING & LEARNING

One of the hallmarks of an MfA fellowship is our peer-led professional development and leadership program for teachers.

At MfA, Master Teachers explore cutting-edge content, innovative teaching practices, and research-based professional development models. During the 2025–2026 school year, MfA scaled its impact to offer over 567 courses consisting of 1,019 individual workshops focused on mathematics, science, computer science and technology, community, leadership, practice, and equity. Reflecting our commitment to teacher leadership, 75% of these sessions were designed and facilitated by MfA teachers, with 25% led by outside experts. Many courses directly supported fellows in navigating major citywide and statewide initiatives, including the expansion of the Illustrative Mathematics curriculum and the Next Generation Science Standards (NGSS) in New York City Public Schools. To meet evolving needs, MfA also expanded its formal credit-bearing offerings in high-priority areas like special education and multilingual learning. Reflecting the diverse and highly specific interests of our community, this year's high-demand and heavily waitlisted courses included:

- A-I Can't Believe It Was That Easy!
- Building the Grid of the Future
- Unveiling the Universe With the James Webb Space Telescope
- Armageddon 2032? Encounters of the Asteroid Kind

- Teaching With Taste: Bringing Fermentation to Your Classroom
- Make Your Own Natural Hair Care Products
- A Culturally Responsive Approach to Supporting Student Mental Health
- From Textbooks to Real World: Teaching Graph Literacy Through Authentic Data

In addition to core programming, MfA also partners with programs, researchers, and institutions on projects that advance our mission and vision locally and nationwide:

SPECIAL EDUCATION ADVANCED CERTIFICATE FOR PRACTICING TEACHERS (SpEd-ACT)

In continued partnership with Hunter College and Dr. Rhonda Bondie, SpEd-ACT addresses the critical shortage of highly qualified STEM special education teachers in New York City Public Schools (NYCPS). SpEd-ACT is an advanced certificate program for practicing teachers to attain an additional license in P-12 Special Education, addressing the systemic crisis in which more than 3,000 students annually do not receive their recommended Individualized Education Plans (IEP) services. Following a successful pilot cohort in which MfA's 10 inaugural teachers earned their special education certification, received coaching to implement new pedagogy, shared their learning with the larger MfA community, and began positions as adjunct professors, MfA continued the partnership with a second cohort of 16 MfA master teachers. By investing in experienced, practicing teachers who already possess deep STEM content knowledge and a proven commitment to their school communities, SpEd-ACT will improve the quality of instruction for students with disabilities.

KNOWLES COACHING COLLABORATION

To expand leadership pathways for veteran educators, MfA collaborated with the Knowles Teacher Initiative to design and launch a comprehensive instructional coaching program. This past year, the inaugural cohort of 16 Master Teachers participated in two mini-courses focused on transformative, equity-centered coaching practices. The curriculum grounded fellows in multiple frameworks to help them navigate the complex dynamics of identity, emotion, and power that shape teaching and learning. In the coming year, 10 of these MfA coaches will deploy their skills by mentoring MfA teachers within our community, while leveraging these new capabilities to lead change within their own schools and beyond.

AI IN STEM EDUCATION: EMPOWERING TEACHERS IN THE AGE OF AI

Building on our core model of elevating practicing teachers as field leaders, MfA is placing classroom educators at the center of AI implementation in STEM. Rather than retrofitting technology into schools, our approach works towards aligning emerging tools with instructional realities, NYCPS policies, and student-centered values. Recent fellowship survey data underscores the urgency of this work: while 85% of MfA teachers actively use AI, 72% feel uncertain about its long-term impact on education. In response, MfA offered 16 AI-focused courses this past year, equipping educators to streamline administrative work, design accessible scaffolds for multilingual learners, evaluate algorithmic ethics, and leverage AI as a collaborative thought partner. To guide our strategy moving forward, MfA is analyzing survey data and establishing an AI Advisory Committee drawn from over 400 interested fellows, fostering teacher forums and design cohorts that keep educators central to shaping AI's role in the classroom.





When I started my first MfA fellowship, I was the only content teacher in my subject area at my school. I often felt very alone and, at times, helpless within my school community. At MfA, I was able to gain much needed support at a vulnerable time in my career. I was surrounded by like-minded people that were willing to try new things and learn from their mistakes. They gave me a sounding board to help improve my teaching practice. For this, I will be forever grateful.

Even more transformative for me was the opportunity to lead a Professional Learning Team. This was a huge step forward for me as I gained the confidence to shift from being a leader in my classroom to becoming a leader far beyond. MfA has also made a real positive impact for my students.

I've developed curriculum to provide students with more authentic inquiry opportunities, resulting in a greater number of them pursuing upper level science courses. And I'm most pleased to see my kids applying their learning outside the classroom to become global citizens."

MfA MASTER TEACHER DAVID STUDER,
Fort Hamilton High School

During the 2025–2026 school year, MfA scaled its impact to offer over 567 courses consisting of 1,019 individual workshops focused on mathematics, science, computer science and technology, community, leadership, practice, and equity.





MfA IMPACT

The benefits of MfA extend beyond individual teachers' classrooms and into the fabric of their schools.

This year, 98% of teachers shared ideas from MfA with colleagues at their school, and the vast majority saw that sharing translated into real change: 94% said it improved teaching practices in colleagues' classrooms, 73% said it strengthened department-wide professional development, and 45% said it elevated professional development school-wide. Teachers also stepped directly into instructional leadership roles: 83% modeled instruction for another teacher, 83% mentored a colleague formally or informally, and 60% facilitated professional development within their department. In all, 87% of teachers took on at least two leadership roles in their school this year, and 70% of those teachers work in high-poverty schools.

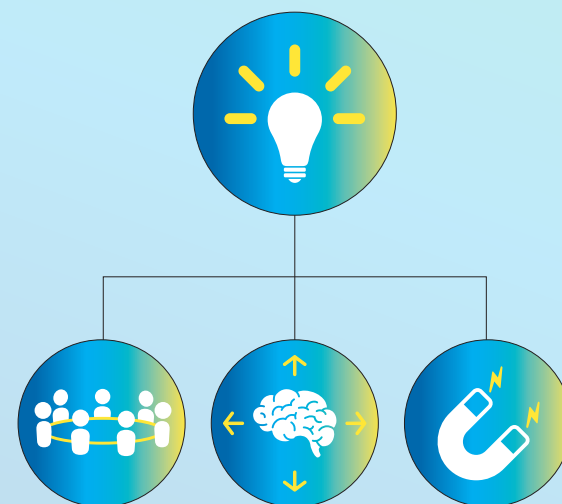
As a direct result of new resources and strategies implemented during the 2025–26 school year, 68% of teachers reported increased engagement and persistence in their own learning, and 63% reported greater confidence, self-esteem, or self-perception as a teacher. Teachers also described a deepened intellectual life in the classroom: 61% reported increased curiosity and excitement about teaching STEM, 46% saw growth in their own mastery of STEM concepts, and 58% felt a stronger desire to lead conversations and initiatives within or beyond their school community. For over a third of teachers (39%), the fellowship also sharpened their ability to reflect on their identity and on systems of power and privilege in education.

This year, 56% of MfA teachers said their fellowship was somewhat of a factor, or a major factor in their decision to stay in the classroom. That impact is starkly evident in the numbers: MfA's overall teacher turnover rate is just 3%, compared to 13% across New York State public schools. And when asked whether they would leave teaching for higher pay elsewhere, only 26% of MfA teachers said yes, compared to 51% of teachers nationally.

Outstanding teachers join a professional community where they explore cutting-edge content, innovative teaching practices, and research-based professional development models



Teachers bring what they learn back to their classrooms and schools



MfA teachers strengthen teaching and professional development at their schools.

- **90%** incorporate strategies learned at MfA daily, weekly, or monthly in their own instruction.
- **98%** shared ideas from MfA with other teachers in their schools.

MfA teachers enrich student learning in STEM at their schools, using new ideas, resources, and relationships from MfA.

- **266** MfA teachers added new higher-level STEM classes to their schools' curriculum.
- **379** MfA teachers created new STEM electives or extracurriculars at their schools.
- **384** MfA teachers established new partnerships to increase students' access to additional STEM learning outside of school.

MfA fellowships keep teachers in the classroom longer.

- **526** MfA teachers said MfA was a factor in staying in the classroom this school year.
- The MfA fellowship has an average yearly teacher retention rate of **97%**.
- The MfA community is comprised of highly experienced teachers who have spent an average of **14** years in the classroom.

500+
professional
development
workshops
per semester



75%
designed and
led by MfA
teachers



100+
partnerships with
mathematicians,
scientists and
education experts



MfA renews teachers professionally and personally, a critical counterweight to the isolation and burnout that often drive experienced educators out of the classroom.

MfA STORIES, FEBRUARY 2026

Accidental Environmentalism

How MfA Master Teacher Carolina Castro figured out how to teach hydroponics and embed sustainability in her classroom.

For Carolina Castro, a veteran teacher of earth science at the Comprehensive Model School Project, a 6-12 school in the Bronx, the journey to a new way of teaching sustainability started with a single MfA workshop in hydroponics. Though she was amazed by the scale and quality of the hydroponics lab where the workshop was held, she thought building something similar at her own school would be impossible.

Then the pandemic arrived, and the school received emergency relief funding. Tasked with finding ways to spend that money, Castro decided to create a “manageable, functional hydroponics lab that could live in one of our high school classrooms, be used by students every day, and slowly grow over time.”

Castro partnered with New York Sun Works to launch the lab, along with a course in hydroponics and sustainability. Given her background in geology, she initially thought that colleagues who taught biology would take over the course, but it soon became clear that it was her project. “Everyone who knew me thought this was the most hilarious thing,” she says. “They’re like, you actually do have a pet rock.”

From the beginning, Castro saw the hydroponics lab as part of a larger effort to help embed sustainability into the school’s culture. She and her students tackled multiple challenges along the way, from floods and power issues to escaped worms and aphid outbreaks. Castro was open with her students about her lack of experience,

and they welcomed the chance to figure things out together. “We learned through trial and error, asking questions, and not being afraid to fail,” she says.

Over three years in the lab, Castro and her students planted and harvested spinach, kale, basil, arugula, peppers, cucumbers and cucamelons. Efforts such as strawberries and flowers were less successful, but they kept trying to learn what worked well and what didn’t. In addition to enjoying (most of) the fruits of their labors — what they didn’t eat went to other members of the school community, or a local shelter — Castro’s students took ownership of the lab in a way she found very gratifying.

“They monitored plant growth, collected data, wrote grants, and presented their work to local leaders,” she says. “The lab became more than a project — it became a place of community, connection and empowerment.”

In accordance with the course’s focus on sustainability, her students also worked with the sanitation department to care for the trees planted on the streets outside their school. In outings around the neighborhood, they noted the lack of grocery stores with fresh produce, and talked about how what they’re learning in the classroom could help. “It became this kind of a-ha moment for them, where they realized there can be alternative ways to deal with these issues that we’re facing,” Castro says.

Eager to learn more, Castro took additional hydroponics workshops at MfA, along with sessions on building Green Teams and Earth Day programs. “Every one of these gave me something new — ideas to test, tools to improve, and opportunities to network with educators and stakeholders in education and climate science doing meaningful work,” she says.

In 2023, thanks to an Impact Grant from MfA, Castro got the opportunity to travel to Vienna, Austria for Geoscience Information for Teachers



(GIFT), a program offered by the European Geoscience Union for primary to high school science teachers. Her students helped her prepare materials for a presentation she delivered on the needs and difficulties of using hydroponics in an urban classroom.

“I made the connection between hydroponics and all the different types of earth science that are related,” Castro says. “I spoke about how it’s related to our community, why it matters, and how it can be done in any space, including ours.” One of only three teachers in the program from the United States, she enjoyed connecting with fellow educators and scientists from Spain, Portugal, Italy and other countries, and remains in contact with some of them.

Castro ventured out of her comfort zone again in the fall of 2024, when she went on a two-week expedition from Reykjavik, Iceland, to Amsterdam aboard the ocean-drilling ship JOIDES Resolution. Closer to home, she took on an even more intimidating challenge when she recounted her journey with hydroponics at the 13th annual MT² Master Teachers on Teaching conference.

“That was one of the hardest things I’ve ever done,” Castro says. “I’m glad that there are people in MfA that see that you have something to share. And if you’re a little bit anxious about it, they’re helping you along the way.”

MfA WORKSHOP SPOTLIGHT, APRIL 2026

Picassos in the Laboratory: Creating Agar Art in the Classroom

There are countless ways to bring art into the science classroom—but what if students could “paint” with living organisms?

In the two-session mini-course Picassos in the Laboratory: Creating Agar Art in the Classroom, MfA Master Teachers Gilbert Papagayo and Brittany Klimowicz invited teachers to explore bacterial transformation, protein structure, and recombinant DNA through an unexpected medium: microbial agar art. The idea for the course began, fittingly, with a mistake.

While teaching a bacterial transformation lab using a plasmid encoding green fluorescent protein (GFP), Gilbert inadvertently plated already-transformed bacteria on the starter plates students were meant to use. When every plate produced glowing colonies, students were unable to collect meaningful data. Faced with the mishap, he pivoted—inviting students to “draw” with the transformed bacteria instead. The result? Engagement soared.

“Both disciplines require a lot of creativity,” Gilbert reflected. “Science requires creativity in designing experiments, and art requires creativity to develop and articulate a coherent vision.”

In the first session, MfA teachers examined nonpathogenic microbes suitable for classroom culture, including *Escherichia coli*, *Micrococcus luteus*, and *Pseudomonas fluorescens*. They studied the structure and function of GFP,

exploring how fluorescent proteins serve as biological markers and how their three-dimensional structure enables them to glow. Participants then designed and plated their own agar art using *E. coli* transformed with fluorescent plasmids.

The second session centered on observation and reflection. After allowing the plates to incubate and develop, teachers reconvened to admire their creations under UV light. Using the rubric from the American Society for Microbiology’s annual Agar Art Contest, participants evaluated each piece for scientific understanding, creativity, and clarity of explanation. The judging process itself became an opportunity to consider how scientific communication, aesthetics, and conceptual understanding intertwine.

Because bacterial transformation is widely taught in middle and high school life science classrooms, Gilbert and Brittany designed the mini-course with classroom transfer in mind. Alongside creating agar art, teachers jigsawed lessons on recombinant DNA, constructed paper plasmid models, and explored the history and mechanics of gene cloning.

For Brittany, who was teaching a course on the human microbiome at the time, the workshop offered a new lens on familiar content.

“Since bacterial transformation can be challenging for some students, we wanted to find ways for it to come alive and become more accessible,” she explained. “And it was wonderful to create space with other teachers who wanted to explore microbial art, be creative, and overall, have a fun and informative experience together.”

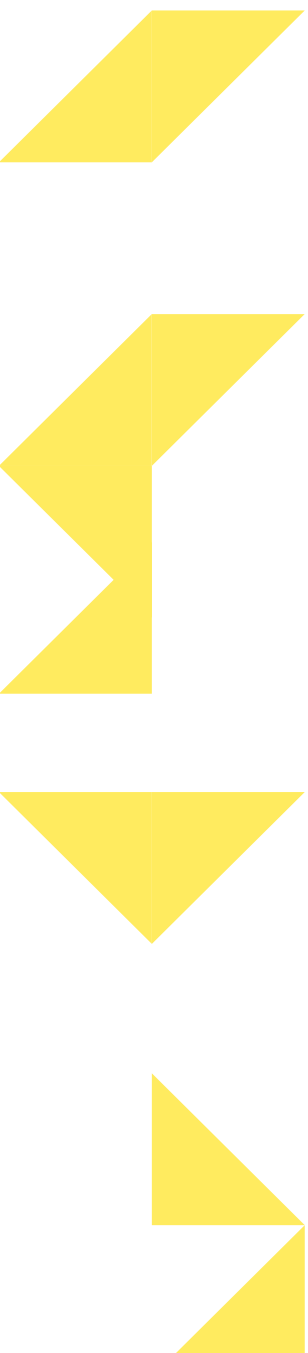
Promoting creativity, both facilitators emphasized, is central to strong science instruction. Designing experiments, troubleshooting protocols, and



interpreting data all require the same generative thinking that fuels artistic creation. Teachers left the course not only with glowing plates and practical lab ideas, but with a renewed appreciation for how beauty and biology can coexist in the same petri dish.



MfA STEM FUTURES COHORT



In Fall 2025, MfA launched the MfA STEM futures Cohort (SfC), a five-year initiative designed to encourage students from low-income families in New York City to pursue STEM majors in college.

Partnering with Leaders High School in South Brooklyn and Washington Heights Expeditionary Learning School (WHEELS) in Washington Heights, the program builds on the foundation of outstanding MfA teachers already working in these schools to create pathways that extend beyond the classroom.

As the program launched, the SfC team hosted 10 STEM engagement experiences across both schools, giving ninth grade students hands-on exposure to STEM topics and helping identify students with strong potential for a summer program. MfA also provided direct funding to both schools to supplement their STEM materials and resources, including support for mathematics teacher coaching.

SfC soon accepted its inaugural class: 14 students from Leaders High School and 15 students from WHEELS, for a cohort of 29 students. This summer, cohort members participated in a six-week computer science intensive hosted at MfA offices. The curriculum centered on physical computing, using Finch robots, and the creative coding platform p5.js to explore the intersection of mathematics, computer science,

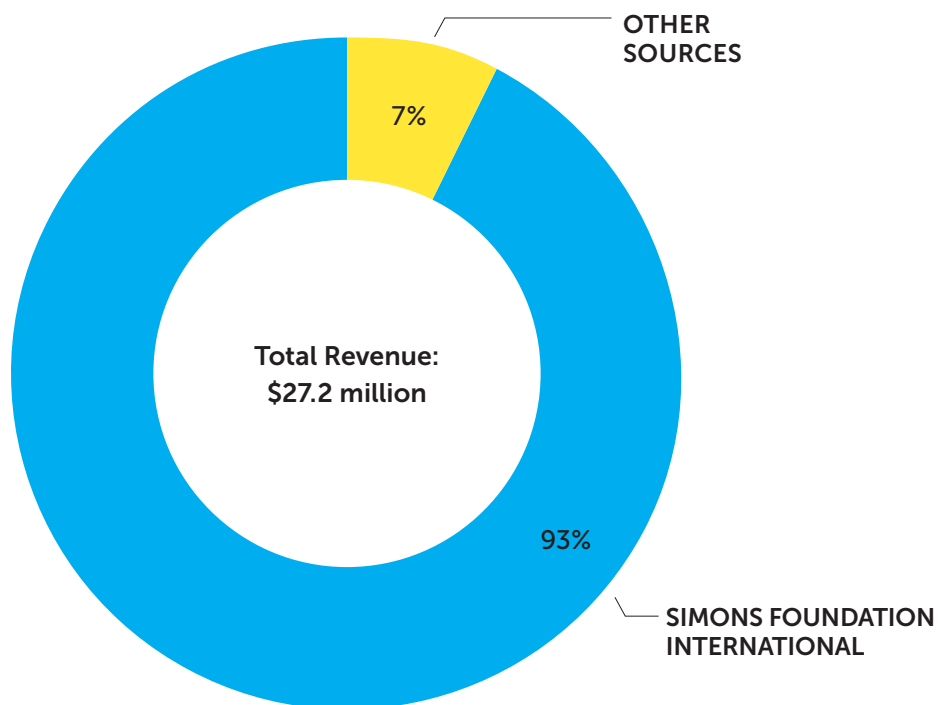
and collaborative problem-solving. The program culminated in a hackathon where students applied and showcased everything they had learned. Six MfA Master Teachers co-facilitated alongside five undergraduate teaching assistants, ensuring students received both expert instruction and near-peer mentorship as they developed their skills and identities as emerging STEM learners. In addition to building STEM interest and skills, the program promoted a culture in which it is every student's responsibility to help every other student succeed. In the following summers, students in the cohort will be given the opportunity to work with different STEM organizations. Additionally, students will engage in enrichment activities that will aid their applications to four-year institutions. The goal is for students to pursue a STEM major, with support throughout their first-year of college.

A central goal of the MfA SfC is to learn how comprehensive, multi-year support—grounded in excellent teaching—can help more students from historically underrepresented backgrounds thrive in STEM fields.

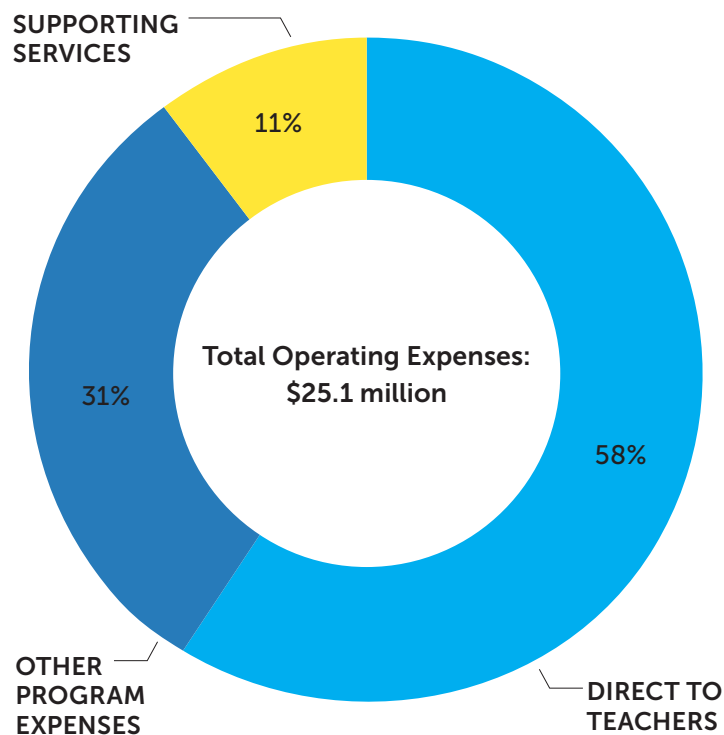
MfA FINANCIALS

Fiscal Year 2026, Year in Review

REVENUE



OPERATING EXPENSES



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President, Federal Reserve Bank
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Directors; Board Chair, Heising-
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Founder, CEO, PDT Partners

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Education, Texas Instruments, Inc.

David Spergel

President, Simons Foundation

Sergei Vassilvitskii

Distinguished Scientist and
Senior Research Director at
Google New York

Darryl Yong

McGregor-Girard Chair in STEM
Equity Innovation and Research
and Professor of Mathematics at
Harvey Mudd College

Our Mission

Building a community of accomplished mathematics and science teachers who make a lasting impact in their schools, their communities, and the profession at large through collaboration and continued learning.

About MfA

At MfA, we've created fellowships for accomplished mathematics and science teachers. Our model is based on the belief that collaboration, continued learning, and genuine respect enables teachers to grow professionally and provides long-term career satisfaction. This is a remarkable community of teachers who stay in the profession longer and define what teaching excellence means. These are teachers who inspire and motivate their colleagues. They change the lives of their students.

Learn more at [MathForAmerica.org](https://mathforamerica.org)

