

Annual Report





Mission

The mission of Girls 4 Science is to enrich the lives of girls through early exposure to the study of science, technology, engineering and math (STEM) and women of color practicing in STEM fields; hands-on problem-based learning and mentorship for careers in STEM.

Vision

Girls 4 Science endeavors to create a sustainable pipeline of women of color in STEM careers.

Saturday STEM Academy

Girls 4 Science fulfills its mission through its Saturday STEM Academy, which provides hands-on experiential learning and mentorship in STEM for girls aged 10-18 years from Chicago and its surrounding communities. The Saturday STEM Academy's innovative program model is based on evidence that science exposure and increased science literacy will equip young girls with the knowledge and confidence needed to pursue study in the sciences and careers in STEM.



2022 Saturday STEM Academy By The Numbers

# Participants	439
#/% New Registrants	243 (55.4%)
#/% Elementary/Middle School (grades 4-8)	332 (75.6%)
#/% High School (grades 9-12)	107 (24.3%)
# Zip Codes represented (4 out of state IN, NJ, CA)	101
# Chicago Zip Codes represented	38
% Students from Chicago Zip Codes	54%
% Reduced/Free Lunch	60%
% American Indian, Alaska Native, Other	0%
% Asian (including Indian subcontinent, Middle East, Phillipine	es) 7.3%
% Biracial	4.8%
% Black/African American (including Africa and Caribbean)	68.8%
% Hispanic/Latina	9.3%
% White (including European Ancestry)	7.5%
% Prefer not to say	2.3%





2022 SATURDAY STEM ACADEMY Winter 2022 • Mental Health • January 8 — February 12

The Winter Saturday STEM Academy on Mental Health was held January 8 through February 12 on the Zoom platform. The 52 participants learned mental health terminology, importance of mental health awareness, causes of mental illness, anatomy and physiology of the brain, neurons and the role of neurotransmitters, foundations for health and wellness, and mental health first aid. Activities included self-care, dissecting a sheep brain, creating a brain model using Play-Doh, building a neuron and therapeutic activities.

➤ High school student Lexi Short (r) dissects sheep's brain for the Winter Saturday STEM Academy on Mental Health.

WINTER 2022 STEM PROFESSIONAL PRESENTERS

Jason Briski



Jason Briski is a science teacher in Elgin, IL and has been involved with Girls 4 Science since 2012 when he was a Quality Control Chemist at Cedar Concepts Corporation. Girls 4 Science was part of Jason's inspiration to leave the lab and become a science teacher. He received a Bachelor of

Science degree in Chemistry from Northern Illinois University and completed teaching licensure coursework at Trinity Christian College.





2022 SATURDAY STEM ACADEMY Winter 2022 • Mental Health • January 8 — February 12

Coalition of Occupational Therapy Advocates of Diversity Chapter Midwestern University, Downers Grove, IL



The Coalition of Occupational Therapy Advocates of Diversity (COTAD) is a national organization that promotes JEDI (justice, equity, diversity and inclusion), anti-racism, and anti-oppression within occupational therapy professional education programs. The Midwestern University Downers Grove COTAD chapter works to increase awareness of JEDI, both within and outside its occupational therapy program, participates in community outreach to increase awareness of the role of occupational therapists, and collaborates with occupational therapy programs at other universities.

Nalini Rao



Nalini Rao is a PhD candidate in Neuroscience at Northwestern University. She is passionate about studying how the brain works. Her research focus is Alzheimer's disease, the most common cause of dementia. Rao has a Bachelor of Science degree in Neuroscience from the University of Miami and a Master of Science degree in Neurobiology & Neurosciences from Northwestern University.

Keina Suggs



Keina Suggs earned a Bachelor of Science degree in Biomedical Science from Bradley University (Peoria, IL) and Master of Science degree in Biotechnology from Rush University. Keina was pre-med through graduate school, but realized she was not passionate enough to practice medicine; rather, she was passionate about advocating for change in the healthcare system. She shifted her career focus to law and aspires to go to law school. She currently works at a law and consulting firm as an assistant for the healthcare strategies team. Keina believes her education in STEM was integral in developing her way of thinking and her perseverance. She wants young women to be able to see that they can be doctors, lawyers and strong leaders in any field that they pursue because they are just as smart and capable as anyone else, and wants to be a role model for those who need one now.

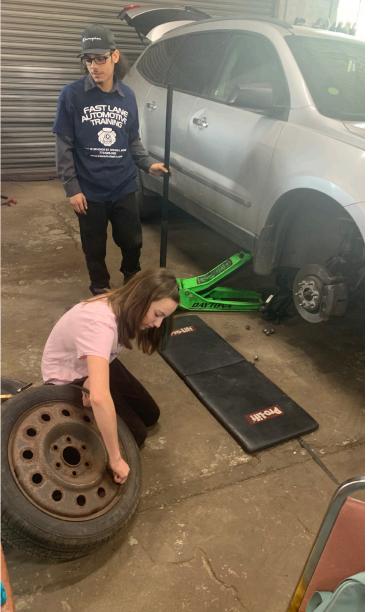


2022 SATURDAY STEM ACADEMY Spring 2022 • The Science of Cars • April 2 — May 7

After two years of pandemic disruption, the Girls 4 Science Saturday STEM Academy went back to in-person learning for the Spring Session (April 2 - May 7) on The Science of Cars. Students learned in a working auto service and repair shop and received hands-on experience in preventive maintenance, including how to check transmission, oil and brake fluids. In addition to learning how a car and its major components work, students learned how to change a flat tire and used a DIY kit to build their own race cars.

Clearly the girls were ready to get back to in the lab, with 115 participants from the three sites attending the Spring Saturday STEM Academy. The Fast Lane Automotive training instructors provided guidance and expertise and made the experience not only educational but fun!







2022 SATURDAY STEM ACADEMY Spring 2022 • The Science of Cars • April 2 — May 7

SPRING 2022 STEM PROFESSIONAL PRESENTERS

Juan Del Castillo
Director of Operations and Owner
Fast Lane Automotive Training



With over 30 years of experience in teaching and curriculum building, Juan Del Castillo has developed creative ways to train people by keeping them engaged and providing real-life hands-on experience that keep students excited about learning. His unconventional thinking on vocational educational training and program development has been recognized and implemented in multiple Job Corps training centers as well as several nonprofits in the Chicagoland area. He is an experienced machinist and automotive technician who believes

professional training with a foundation based on the humanistic approach to education creates successful students that can complete their training, think in a critical manner and obtain a career in their field of study.

Kenia RamirezProgram Administrator Fast Lane Automotive Training



Kenia Ramirez assists students with intake and orientation to set them up for success in the training environment, and aids in soft skill training and coaching to ensure students perform professionally with others while in class. Her main role is recruitment and outreach to clients as well as nonprofits in the many communities that can benefit from the company's training and job placement services.





Gioia Puckett creates a DIY Jellyfish.

"Building" a jellyfish, dissecting a Dogfish Shark and testing water in the Chicago River were just a few of the activities 120 Girls 4 Science students experienced during the Summer Saturday STEM Academy on Marine Biology, July 9 - August 13. Special thanks to the Illinois Mathematics & Science Academy for providing the content and training for the jellyfish modeling activity. Students also saw aquaponics and hydroponics in action at Metropolitan Farms, located on Chicago's West Side.

▼ Dogfish Shark dissection.





Week 2 of the Summer Saturday STEM Academy there was a special workshop - "Young Engineers Lego Robotics Lab" - presented by Sterling Engineering. Students worked together using engineering principles to create different structures using Legos.





Girls 4 Science partnered with Friends of the Chicago River for a field trip to Flatfoot Lake at Beaubien Woods Forest Preserve. Students used water quality monitoring kits and probes to assess the water quality of the Chicago River and calculated the River's water quality based on the macroinvertebrates found. We are grateful to Mark Hauser, Ecology Outreach Manager at Friends of the Chicago River, and the volunteers from his team for facilitating such an amazing day at Beaubien Woods!





Kana Hutchens, founder of the Connecting the Dots Project, an environmental conservation organization, filmed the Girls 4 Science experience at Flatfoot Lake. See the film, <u>Hope for the Future</u>, at https://www.youtube.com/watch?v=wXAbiKfN1TI

SUMMER 2022 STEM PROFESSIONAL PRESENTERS

Jason Briski



Jason Briski is a science teacher in Elgin, IL and has been involved with Girls 4 Science since 2012 when he was a Quality Control Chemist at Cedar Concepts Corporation. Girls 4 Science was part of Jason's inspiration to leave the lab and become a science teacher. He received a Bachelor of Science degree in Chemistry from Northern Illinois University and completed teaching licensure coursework at Trinity Christian College.

Kita Gandhi *Director of Life Sciences Engineering*Sterling Engineering



Ms. Gandhi is a PMP-certified chemical engineer, project manager, and entrepreneur with experience in both large corporate and small business environments. She earned her Bachelor of Science degree in Chemical Engineering from Washington University in St. Louis and her Master of Science degree in Chemical Engineering from the University of California, Berkeley. Gandhi works with schools, community centers and local organizations to provide engineering education programs in the Chicagoland area, is the owner/operator of Young Engineers Chicago Near West, and is passionate about introducing the next generation to the wonders of engineering.



Christine Lauren MoskalikIllinois Mathematics and Science Academy

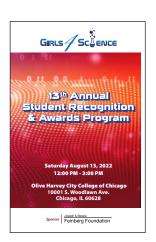


Christine is a Curriculum and Professional Development Specialist at the Illinois Mathematics & Science Academy, a 3-year residential public secondary education institution in Aurora, IL. She has done research in undergraduate genetics education, evolutionary developmental biology, molecular biology, and endocrinology. Currently Christine is pursuing a doctoral degree in educational leadership.

Student Recognition & Awards Program



The Summer Saturday STEM Academy session culminated with the Student Recognition and Awards Ceremony on August 13 at Olive Harvey City College. The keynote speaker was Lisa Porter, MS, HTL(ASCP), a board-certified histotechnologist and Anatomic Pathology Supervisor at Silver Cross Hospital in New Lenox, IL. Porter shared how she continued her education while being a working mom and how her career in STEM allowed her to stabilize her family financially. She encouraged the girls to advocate for themselves in whatever way they can and continue to support each other as they break barriers in the world of STEM.



(I) Keynote Speaker, Lisa Porter, MS, HTL(ASCP)

Students received certificates and staff and volunteers were recognized for their service. Five Girls 4 Science high school seniors - all of whom have been involved with G4S since elementary/middle school - received \$1,000 Linda McGill Boasmond college scholarships:

- Narjis Jafferi, Illinois Institute of Technology, Architecture
- Grace Ogunlana, Marquette University, Nursing
- Aliya Kazmi, Illinois State University, Biology
- Victoria Mays, Illinois State University, Philosophy/Psychology/Pre-law
- Kierson Dee Rickmon, Wilbur Wright College, Chemistry, Music Education



2022 SATURDAY STEM ACADEMY Fall 2022 • Pharmacology • October 1 — November 5



▲Girls 4 Science at the International Museum of Surgical Science.

The Fall Saturday STEM Academy session on Pharmacology was held October 1 - November 5. Students were exposed to the many different careers in pharmacy, filled prescriptions in the pharmacy lab at Malcolm X College, learned about drug safety and the course requirements for a certificate or degree in Pharmacy Technology, and visited the International Museum of Surgical Science. More than 150 girls attended the Fall session.

Representatives from Walgreens InclusivIT Resource Group, pharmaceutical company AbbVie and Malcolm X City College participated in a panel discussion on careers in pharmacy, work-life balance and the important role pharmacists play on the healthcare team. The panelists highlighted Pharmacy Technician training programs at City Colleges of Chicago, and the increased demand for pharmacists and pharmacy technicians in various practice settings.

The Fall session ended with a two-hour Leadership
Workshop on November 5 at the Glencoe Park District, in
partnership with the Rotary Club of Glencoe. The workshop
focused on essential leadership skills and attributes, such
as communication, feedback, motivation, trustworthiness,
creativity, responsibility, commitment, diversity and integrity.
The girls were grouped based on age and each group
worked to define leadership in their own words, give
examples of good and bad leaders and list the skills these
leaders demonstrate or lack. Each group was led by mentors
from the Rotary Club of Glencoe and leaders from the local



▲ Girls 4 Science Leadership Workshop at the Glencoe Park District.

community, including the United Methodist Church, Glencoe Park District, State Farm, Merrill Lynch, and the Rotary Club of Highland Park. The workshop concluded with a general session where the girls shared their aspirations and how they could grow to be leaders in the future. AbbVie donated the journals and pens for the workshop.



2022 SATURDAY STEM ACADEMY Fall 2022 • Pharmacology • October 1 — November 5

FALL 2022 STEM PROFESSIONAL PRESENTERS

Blair Brown Regulatory Affairs Manager Ingredion, Inc.



Blair Brown is a food science and food safety professional specializing in international food law and US Food & Drug Administration regulations. Driven by a business philosophy focused on the customer experience, Blair prides herself on using her regulatory expertise to ensure the customer's compliance needs are met while protecting the organizations intellectual property. Blair values working in diverse teams to stimulate new ideas and see things from different perspectives.

Blair currently supports domestic and international compliance to food, pharmaceutical and personal care regulations for Ingredion Inc.'s North American commercialized products. Blair's recent career focus has been on clean labeling, natural, contaminant monitoring and organic regulations. Blair has been cited in Food Business News and Food Processing Magazine and spoken at Food 2.0 Investing in the Next Wave of Natural & Organic. Blair's business approach has been to ask, "I know that we can't do it today, but what would it look like if we could? What would it take for us to get there?" She received a Bachelor of Science degree in Food Science & Technology from University of Delaware and Master of Science in Food Safety from Michigan State University.

Tracy V. Faulkner, Pharm.D.

Adjunct Faculty, College of Pharmacy
Nova Southeastern University



After a career in the pharmaceutical industry as a Medical Science Liaison, Dr. Faulkner draws on her specialized training in medicine and pharmacy to provide concierge-level pharmaceutical care and counseling, patient navigation, and caregiver services through her own firm, the Faulkner Group. She received a Bachelor of Science in Zoology (Major) and Chemistry (minor) from Howard University, a Doctor of Pharmacy from the University of Nebraska and completed an ASHP-Accredited residency in Pharmacy Administration at the University of Michigan Health System.



GIRLS 4 SCIENCE LAUNCHES LAB ASSISTANT PROGRAM FOR HIGH SCHOOL STUDENTS







Kaylen Irvin

Students in 9-12th grade can increase their STEM enrichment as a Volunteer Lab Assistant for Girls 4 Science. Two high school students have been selected for the inaugural program. Dajah Thomas has participated in Girls 4 Science for seven years at the Olive Harvey location. Dajah is a rising senior at Kenwood Academy, and after high school, she plans to major in biochemistry in college. Kaylen Irvin is a junior at Thornton Fractional South High School in Lansing, Illinois and has participated in Girls 4 Science at the Olive Harvey campus for the past six years. Her current career interest is emergency room nursing, providing hands-on care to patients.

Volunteer Lab Assistants attend the Staff and Volunteer Training each quarter, participate on monthly Program Committee planning calls, offer feedback to the team related to student input, serve as a Lab Assistant Ambassador at Girls 4 Science outreach events, and assist the Program Coordinators during class with activities and on field trips.

GIRLS 4 SCIENCE WELCOMES NEW BOARD MEMBER



Luz del Carmen Najera Colunga, Vice President of Global Government Affairs & North America Sustainability Lead at Ingredion Inc., will join the Girls 4 Science Board of Directors. Luz has held several positions during her 20 years

◄ Luz del Carmen Najera Colunga

at Ingredion. She is an attorney with a Master's degree in Corporate Law from Universidad Panamericana, a corporate law degree from Universidad Autonoma de Guadalajara, and a diploma in business administration from Harvard Business School.



Introduce a Girl to Engineering Day



Milhouse Engineering and Milhouse Charities partnered with several organizations - including Girls 4 Science - for *Introduce a Girl to Engineering Day* on Feb. 24, 2022. Held at the Milhouse Chicago headquarters, the program was intended to show how women engineers change the world and inspire a future generation of women in STEM.

➤ Attendees learned about engineering through hands-on activities like STEM Engineering with Spaghetti and Marshmallow Structures. In the picture, Logan Lomax (I) and Avery Ja (r) experience structural engineering challenges building with spaghetti and marshmallows.



Northwestern University

On February 24, 2022, Girls 4 Science met with Northwestern University's Neuro Club for a tour of the Department of Neurobiology and discussion of careers in any of the numerous fields of neuroscience with faculty and Neuro Club members. Following the meeting with the Neuro Club, the Girls 4 Science students had a meet-and-greet with the



Northwestern University women basketball players who are STEM majors, then watched the NU women's basketball team play Purdue. The outing was sponsored by Horizon Therapeutics.

◆ Northwestern University Women's Basketball team members and staff with G4S students (front row, L to R) Kaylen Irvin, Avery Ja, Lexi Short, Logan Lomax, Jenessa Velazquez (far right). Back row, third from right is Trinity Cowles.



Nonprofit helps Chicago girls pursue futures in STEM

Girls 4 Science Founder and Executive Director Jackie Lomax, who originally wanted to help her own daughter achieve her dreams, has been helping girls chart their own courses into science, technology, engineering and math for more than a decade. Lomax was interviewed March 3 for <u>Trending Now</u> on AccuWeather.com.

Chicago Park District Teen Opportunity Fair

Girls 4 Science hosted a table at the Chicago Park District's Annual Teen Opportunity Fair at Truman College on Saturday March 5, 2022. Girls 4 Science participants Kyla Wiggins (I) and Logan Lomax (r) highlighted the difference between plant and animal cells and created cell models using Rice Crispies, Skittles, M&M's, gummy bears, Twizzlers and sprinkles. Guests were encouraged to create a take home edible cell while registering for the Girls 4 Science Saturday STEM Academy Spring session on The Science of Cars.



Girls 4 Science on WTTW

On March 12, Girls 4 Science was featured on Chicago Tonight: Latino Voices. The Saturday STEM Academy Spring session on the Science of Cars was highlighted. Watch at: <u>WTTW Chicago Tonight: Latino Voices</u>.

AeroSTEM Youth Aviation STEM Expo



Volunteer mentors Tien Truong and Kenyana Tysika, with Program Director Dezarae Brooks, represented Girls 4 Science at the 4th Annual AeroStar Youth Aviation AeroSTEM Expo at the Illinois Institute of Technology on March 26, 2022. The event, for Chicago students ages 12 and up, introduced youth to the aviation and aerospace fields and offered interaction with flight simulators, mini-drones, and robots. More than 300 students and family members from across the city attended. Girls 4 Science was a featured organization and hosted a table where Truong and Tysika encouraged students to take part in hands-on activities from the Fall 2021 Girls 4 Science Saturday STEM Academy session on Robotics/Bioengineering, provided information about Girls 4 Science programs and gave away Girls 4 Science branded water bottles.



White Oak Library District STEM Fest

More than 1,000 people enjoyed adventures in science at the April 9 STEM Fest, held at the Romeoville Branch of the White Oak Library District. Girls 4 Science Executive Director Jackie Lomax invited families to create edible plant or animal cells using Twizzlers, Skittles, cream cheese, Rice Crispies, and gummy bears. The event introduced families from the Southwest suburbs to the Girls 4 Science Saturday STEM Academy at the University of St. Francis.







Paul Cuffe STEM Academy

Girls 4 Science was the featured community STEM organization at the Paul Cuffe STEM Academy Annual Family STEM night on April 29, 2022. Located in Chicago's Auburn Gresham neighborhood, 50 Paul Cuffe families attended the event and learned about the Girls 4 Science Saturday STEM Academy. To promote the summer Marine Biology session, Girls 4 Science Volunteer Mentor Myiah Williams dissected a shark and distributed a word search puzzle featuring shark anatomy terminology. Attendees were also introduced to basic engineering, electronics and circuitry concepts by working with a Snap Circuits® kit, which features more than 50 hands-on engineering activities.

 \blacktriangleleft G4S Volunteer Myiah Williams demonstrates dissection of a shark at Paul Cuffee STEM Academy.

8th Annual Orange Day Peace Party

Girls 4 Science hosted a table at the Orange Day Peace
Party in Hadiya Pendleton Park on June 4, 2022. The event
was held in memory of Hadiya Pendleton, who was a victim
of gun violence shortly after she performed at the second
inauguration of President Barack Obama in 2013. Girls 4
Science gave away Goldfish crackers to highlight the Summer
2022 Saturday STEM Academy on Marine Biology, provided
math games, and displayed a sheep brain.



Girls 4 Science Alumnae Reunion



On June 11, 2022, Girls 4 Science hosted a reunion for alumnae at Beggar's Pizza in Alsip, IL. The young ladies enjoyed an afternoon with University of St. Francis Program Coordinator Monique Puckett, Girls 4 Science Board member Onome Alabi, and Executive Director Jackie Lomax. The group reflected on their post-high school achievements and spoke about the importance of staying connected to Girls 4 Science as they pursue their goals. "Girls 4 Science is a family legacy for me and having a circle of support means a lot to me," said 2016 graduate Sairyia Jemison. The alumnae received a commemorative pin with the Girls 4 Science logo and pledged to continue to serve as Girls 4 Science Ambassadors.

University of Chicago STEAM Camp

Girls 4 Science students, Logan Lomax and Gioia Puckett, attended the University of Chicago STEAM Summer Camp for Middle School Girls June 20-24 at Norman B. Barr Camp in Williams Bay, Wisconsin. During the week the girls engaged in astronomy and night sky exploration, swimming and outdoor activities, arts, hands-on learning projects, mind and body balance, and talent night.



G4S students Logan Lomax (I) and Gioia Puckett (r)

Rotary Club of Glencoe Family Fun Run



The Rotary Club of Glencoe hosted a Family Fun Run on July 4, 2022, with proceeds benefitting Girls 4 Science. Over 200 families attended the event. To highlight the Summer Saturday STEM Academy on Marine Biology, families were invited to create their own jellyfish using a plastic bag, food coloring and a plastic water bottle, and were treated to Goldfish crackers. There was also an opportunity to create a DIY lava lamp using water, baby oil, food coloring and liquid antacid.

◀ G4S Board Member Marie-Esther Saint Victor (I) with G4S Alumna Lauren Lomax (r) at Glencoe's Independence Day celebration.



Space Camp



◀ L to R: Arielle Miller, Allison Xu, Naliyah Anderson, Executive Director Jackie Lomax at Space Camp.

Three Girls 4 Science students were selected to travel to Huntsville, Alabama July 10-15 for Space Camp. Space Camp is a one-of-a-kind experience at the U.S. Space & Rocket Center, the Official Visitor Center for NASA's Marshall Space Flight Center. Space Camp provides a unique, hands-on, STEM experience for students to train like astronauts. Throughout the week, the students are immersed in astronaut training techniques using

equipment adapted from NASA's astronaut program. They learn about space hardware, conduct water and diving exercises, experience a spaceflight mission simulation, explore the daily schedule of astronauts and their living environments, meet former astronauts, and learn about aerospace career opportunities. The Girls 4 Science Space Camp experience is sponsored by Ingredion, Inc.

Robotics Camp

Ingredion Inc. sponsored 25 Girls 4 Science students to attend the Lewis University Robotic Camp, July 11-14. The camp is for middle and high school girls interested in a future career in robotics.

Girls 4 Science participants worked beside college students to learn about computers, computer programming, robots and robotics. Activities included building a Piper Computer, learning and practicing programming on the Piper Computer, a virtual reality lab, and designing, building and programming a robot.





Certificate of Award from Chicago Drug & Chemical Association

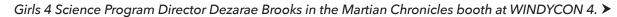
The Chicago Drug & Chemical Association presented Girls 4 Science with a Certificate of Award and \$2,000 donation at its Annual Meeting and Silent Auction on October 27.

← Girls 4 Science Executive Director Jackie Lomax (I) and Megan Peboontom from Ravago Chemical, representing the Chicago Drug & Chemical Association (r).



WINDYCON

WINDYCON is Chicagoland's longest running science fiction convention - held November 11-13 in Lombard, IL. Girls 4 Science was selected as this year's charity at WINDYCON 4. Girls 4 Science Program Director Dezarae Brooks greeted attendees on November 12 and shared information about Girls 4 Science.





Facebook Live Interview



On November 13, Girls 4 Science participants Kyla Wiggins (left) and Logan Lomax (second from right) and Executive Director Jackie Lomax (right) were interviewed on <u>Facebook Live</u> by Chelsea Whittingham, Chief Executive Officer at C WHITT PR LLC.

Volunteer Spotlight



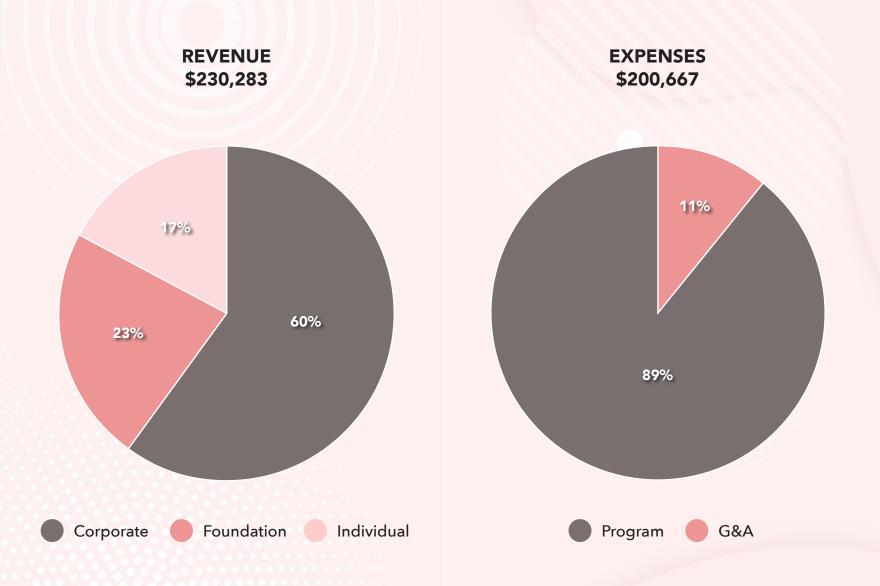
Ericka Kroger, BS Material Science & Engineering, MBA, has volunteered for Girls 4 Science for nine years. In a YouTube video she explains why. *Watch here*.

⋖ Ericka Kroger



Chimere S. Brown has been a Girls 4 Science volunteer since 2020 at the Malcolm X location, providing professional and technical support for content creation. Ms. Brown is a Senior Sales Programs Manager at Salesforce. She received a bachelor's degree in chemistry and chemical engineering from Washington University in St. Louis and an MBA in marketing and operations from the University of Illinois at Urbana-Champaign. She is certified as Project Management Professional (PMP) by the Project Management Institute.







WHY STEM?

In an ever-changing, increasingly complex world, it is more important than ever that youth are prepared to bring knowledge and skills to solve problems, make sense of information, and know how to gather and evaluate evidence to make decisions. These are the kinds of skills that students develop in science, technology, engineering, and math—disciplines collectively known as STEM. Science, technology, engineering, and mathematics have always been the foundation for inspirational discovery and transformative technological innovation.

STEM education helps students gain the skills required to succeed in today's challenging world, including the ability to think critically and solve complex problems along with soft skills such as cooperation and adaptability. STEM

education creates critical thinkers, increases science literacy, and enables the next generation of innovators.

STEM literacy and STEM skills are increasingly important for all people to succeed in the workplace and in

their

everyday lives. To simply function as an informed consumer and citizen in a world of increasingly sophisticated technology requires the ability to use digital devices and STEM skills such as evidence-based reasoning.

STEM employment in the U.S. continues to grow at a faster pace than employment in other occupations, and STEM workers command higher wages than their non-STEM counterparts. STEM degree holders enjoy higher earnings, regardless of whether they work in STEM or non-STEM occupations.

WHY GIRLS?

Women comprise 50% of the American population and more than 50% of the college-bound population, yet they remain underrepresented in the STEM fields, especially women of color. While nearly as many women hold undergraduate degrees as men, they make up only about 30% of all STEM degree holders.

The gender gap in STEM begins with education. In childhood and adolescence, girls' interest in STEM is dampened by stereotypes and cultural norms that consistently portray ideal scientists, engineers and technology innovators as male. Girls participate in high level math and science courses at similar rates as males as they move into high school, and then a gender gap in participation starts as girls take fewer of the more advanced STEM courses as they get closer to college. This gap widens the longer girls are in school and larger gaps exist between students of different racial and ethnic backgrounds or family income.



There are several measures that can help build STEM identity and interest among girls -- especially girls of color -- including extra-curricular and single-sex programs, Black and female role models and project-based instruction. Informal STEM experiences are useful to girls, as they provide unique opportunities to engage and connect with science in an inquiry-based manner without the academic requirements of memorization and standardized testing. Such programs can have profound impacts on girls at the time when they are involved, and these impacts relate directly to their confidence, attitudes, and future plans.

WHY GIRLS 4 SCIENCE?

G4S targets girls age 10-18 years, primarily from lowand moderate-income communities. The Saturday STEM Academy's innovative program model is based on evidence that science exposure and increased science literacy will equip young girls with the knowledge and confidence needed to pursue study in the sciences and careers in STEM.

Early exposure to STEM fields, specifically in an all-girls environment with hands-on, problem-based learning, can combat the negative stereotypes and attitudes that contribute to the under-representation of women in many STEM fields. This is especially true for girls of color. Increasing the opportunities for science exposure for girls will affect change in multiple areas including self-esteem, post-secondary study and increased employment opportunities.

The **Girls 4 Science Saturday STEM Academy** employs strategies that have proven successful in increasing girls'

interest in, positive attitudes toward, and identification with STEM. The evidence-based aspects of the program include:

- Single-sex program.
- Science exploration through project-based instruction with emphasis on creativity, problemsolving, hands-on, small group experiential learning and teamwork, which fosters a growth mindset, self-confidence and collegiality.

• Field trips to corporations, organizations, cultural institutions and other sites that provide opportunities to link the concepts learned in the STEM curriculum to realworld applications, and expose participants to a range of STEM industries, career options and working STEM professionals, especially women, to redefine how they see STEM.

Mentorships to introduce participants to female role models -- especially women of color -- who are professionals in STEM fields, to help girls see potential resilient STEM identities.



2022 DONORS

Girls 4 Science gratefully acknowledges all individuals, foundations, corporations, students, parents, Advisory Board members, and members of the Board of Directors who support the organization and tirelessly advocate on our behalf.

CORPORATIONS & FOUNDATIONS

\$50,000 +

Joseph & Bessie Feinberg Foundation

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Under \$100

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DOUBLE GOOD POPCORN FUNDRAISERS

We salute the students, families, Board members, staff and friends who sold popcorn through their online stores and raised more than \$7,751 for Girls 4 Science.

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Girls 4 Science is indebted to its dedicated volunteers who generously give their time to the Saturday STEM Academy, Summer Student Recognition & Awards Ceremony, Women in History event and other Girls 4 Science activities.

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