



imagine
science

INSPIRING THE
NEXT GENERATION
OF STEM LEADERS

Boys & Girls Club of America • Girls Inc.
National 4-H Council • Y-USA

IMAGINE SCIENCE

PROGRAM UPDATE

Summer 2022

THE POWER OF COLLABORATION: *In Action*

INTRODUCTION

Careers in mathematics, science, engineering, and technology are among the fastest growing and most rewarding professions in today's economy. But for many of the nation's underserved youth, these opportunities can seem far out of reach.

In 2015, four of the nation's largest youth-serving organizations—Boys & Girls Clubs of America, Girls Inc., the National 4-H Council, and the YMCA of the USA—joined forces to launch Imagine Science. Their mission is to build excitement and confidence in young people from low-income communities in pursuing STEM careers. To date, partners working in eleven communities nationwide have brought Imagine Science to over 40,000 under-represented youth.

The effort is getting results—71 percent of participating students showed an increase in their enthusiasm for STEM learning according to an independent evaluation, and 54 percent said they were interested in pursuing a STEM career compared to a national benchmark of 46 percent.

Getting youth excited about STEM takes high-quality programs, and the secret to delivering them, partners say, is a high and often unprecedented level of collaboration across organizations. In the words of one Executive Director from NYC Imagine Science: **"It's more brains, more ideas, more innovation, more scale and impact."**

In this special program update we hope you'll enjoy learning more about Imagine Science in action in two of our communities: **Lancaster, PA** and **Greater Houston/Texas Coastal Prairies, TX**.

PROGRAM PARTNERS



CONVENING PARTNER



58%

GIRLS

89%

YOUTH OF COLOR

83%

FROM LOW-INCOME
HOUSEHOLDS

36%

NEW TO IMAGINE SCIENCE
PARTNERS

YOUTH IMPACT

71%

STEM ENGAGEMENT
(VS. 69% National Benchmark)

50%

STEM IDENTITY
(VS. 42% National Benchmark)

54%

STEM CAREER INTEREST
(VS. 46% National Benchmark)

WHAT'S NEW EXPANDING IMAGING SCIENCE IMPACT IN PENNSYLVANIA

Lancaster, Pennsylvania is one of Imagine Science's newest community sites, launched in 2021. Nationally affiliated partners—Boys & Girls Club of Lancaster, Penn State Extension - Lancaster County 4-H, Girls Inc. of Greater Philadelphia & Southern New Jersey, and local partner Bright Side Opportunities Center—are pooling expertise and resources to create afterschool and summertime learning that sparks young people's interest in STEM careers. Nearly all participants are students of color or girls, groups historically underrepresented in STEM fields.

Before Imagine Science, STEM activities at Camp Hogan would have been “pulled off Pinterest on the fly by college student counselors who didn't always know what they were doing,” said Mary Reidy, director of programs at Boys & Girls Club of Lancaster.

During the summer of 2022, over 300 participants signed up for Imagine Science in Lancaster, Pennsylvania, and were able to wade into a stream that winds along the edge of Boys & Girls Club of Lancaster's Camp Hogan and study it like environmental scientists. To assess water quality, they collected samples to test for pH levels and nitrates and search for macro-invertebrates like crayfish, snails, and dragonflies.

This summer's STEM activities came from the 4-H Rain to Drain curriculum. Through hands-on investigations, students learned about the causes and effects of stormwater runoff, how it's managed, and how green infrastructure like rainwater and permeable pavement can help reduce it. Penn State Extension, which designed the curriculum, recently trained staff from all the Imagine Science Lancaster partners.

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"It's been a great, exciting, informative summer," said Megan Runkle, program director at Boys & Girls Club of Lancaster's Jack Walker Clubhouse, who adapted the Rain to Drain curriculum for her program.

Girls Inc. of Greater Philadelphia & Southern New Jersey also provided valuable training for Boys & Girls Club staff, Runkle said, including on how to facilitate student-led STEM investigations. She said she's thrilled that her Imagine Science partners are helping move her program "towards more valuable activities that challenge kids to solve a problem, conduct an experiment, test a hypothesis and redesign based on the results."

Penn State Extension also sees the benefit of the partnership, said Lori Little, 4-H educator. Providing curriculum and training to other Imagine Science partners allowed her to reach almost 400 students in 2021 without hiring more staff, she said. "We also love that we can work with other agencies and help reach urban youth, which is not our forte."

Imagine Science programs in Lancaster run year-round. At Jack Walker Clubhouse, afterschool programs in the spring and fall delved into other 4-H curricula, such as Mars Base Camp, which had students design, build, test, and redesign Mars rovers, among other projects. But the summertime is when the Boys & Girls Club serves its largest number of Imagine Science students.

In summer 2021, the Boys and Girls Club of Lancaster served more than 200 youth with an Imagine Science program that followed the 4-H Pollinators curriculum. Activities were both indoor, such as building models of ants and bees from craft supplies, and in the field observing and collecting data, such as on which flowers attract different species of pollinators. Some of the children attending might have missed out if not for an innovative partnership. The Boys & Girls Club arranged for School District of Lancaster to bus 65 elementary students assigned to summer school to the Boys & Girls Club in the afternoons or on days when summer school was out.

The pollinators curriculum was a hit with kids, Reidy said. "As the summer went on, I would hear 6-, 7-, 8-year-olds walking around at camp talking to their friends about pollinators," she recalled. "I think it's the repetition of the theme and connection to the environment around them. It was relevant to the kids because the camp was out in nature."

At the Boys and Girls Club of Lancaster, Imagine Science helped build relationships that drew new opportunities for students beyond the program. Imagine Science's robust science curriculum attracted two volunteers from a local engineering company who helped enrich Imagine Science but also offered additional STEM programs during the school year.

WHAT'S NEW MULTIPLYING IMAGINE SCIENCE IMPACT IN TEXAS

Expanding the Imagine Science partnership to include the rapidly growing counties surrounding the Greater Houston metro area made sense... especially as many newcomers are low-income people of color.

In Summer 2022, Imagine Science Greater Houston partners launched a new collaborative project to serve the five surrounding counties and include new 4-H partners in Fort Bend, Galveston and other counties.

"We saw how great an impact Imagine Science had on youth in underserved communities in Greater Houston," said Kimber Williams, program manager for the Boys & Girls Clubs of Greater Houston "so we wanted to extend it to areas outside Harris County."

Greater Houston's four Imagine Science partners—the Boys & Girls Clubs of Greater Houston, YMCA of Greater Houston, Girls Inc. of Greater Houston, and Texas A&M AgriLife Extension Service—spearheaded the expansion. Each reached out to its affiliates in the surrounding counties to collaborate on the plan. The new, expanded collaboration will be known as Texas Coastal Prairies and will serve more than 700 students at 15 sites in its first year.

"I am really, really excited about having Imagine Science," said Andrea Clark, club director of Mission Bend Boys & Girls Club in Fort Bend County. Since the clubhouse opened in late 2020, parents have been clamoring for STEM programs, she said, and without Imagine Science, her staff would have been left on its own to search the internet for activities. Through Imagine Science, her club now has access to curriculum and training from STEM specialists at Texas A&M AgriLife Extension Service and other Imagine Science partners, she said. "Parents are excited that we're doing STEM this summer, and I think my kids will really enjoy it."





Texas Coastal Prairies sites were able to select from a variety of rich STEM curricula. This summer, many are opting for Nature Explore, an investigation of Texas ecology, including plant and wildlife habitats and food webs. Activities engage students in “what actual stem professionals do in their field, such as identifying specific habitats for native flora and fauna,” explained Jaden Kelly, Harris County 4-H extension agent for Texas AgriLife. He designed the curriculum and piloted it last summer at YMCAs in and around Harris County.

Expanding the Imagine Science partnership to include the rapidly growing counties surrounding the Greater Houston metro area made sense, he said, especially as many newcomers are low-income people of color. “The kids we want to serve are there,” he explained, “and they are there in big numbers.”



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Imagine Science Partners in Greater Houston want to do more than expand the initiative to surrounding counties. They aim to inspire their Boys & Girls Clubs, YMCAs, Girls Inc. and 4-H counterparts in other large metro areas in Texas to form similar partnerships.

“Imagine Science, to me, is a model that should be replicated across the state,” said David Wright, urban program director at Texas A&M AgriLife Extension Service, who is leading the effort he dubbed “Amplify.”

Practices the Imagine Science partners are advocating include sharing STEM curricula and professional development, collaborating on grant proposals, and observing each other’s STEM programs to provide feedback and spur improvement. “All of us at the table in Greater Houston found out things we didn’t know,” Wright explained. “We found out what we were good at and things we need to do a better job at. We came together to create a really unique program.”



IMAGINE SCIENCE HOUSTON, TX

To spread the word on the benefits of working together, Imagine Science partners are speaking at statewide and national conferences. Kimber Williams and Jaden Kelly did a joint presentation for a Texas A&M AgriLife Extension Service urban summit called "Collaboration not Competition." They also spoke to at a Junior Master Gardener national leadership conference. So far, they've followed up with interested groups both in-state and as far away as Michigan, Kelly said.

Greater Houston partners are also reaching out individually to contacts in other metro areas. In Fort Worth, Fralonda Aubrey, a program director for the Boys and Girls Club of Greater Tarrant County, is talking with Kelly about bringing 4-H programs to her club.

"Most organizations operate on their own, having their own curriculum, their own services, their own ideas," said Aubrey, who formerly participated with Imagine Science in Greater Houston. "But when you get together and share you are able to give an experience they wouldn't get if that partnership hadn't happened."

Wright observed that it takes time for busy youth organizations to build relationships and commit to new partnerships. But the interest is growing, he said. "I think two years from now we'll have most of our counterparts in urban counties in Texas sitting at a table talking about how we can work together," he predicted. "There are too many benefits for us not to work together."



Imagine Science is a collaboration of four leading national youth organizations and the STEM Next Opportunity Fund formed to bridge the STEM gap by igniting the imaginations of historically under-represented youth. We believe that prolonged, informal exposure to STEM increases a child's interest and builds a foundation for proficiency through high school and beyond. To learn more or make a donation visit, www.imaginesci.org/



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