![Latinas Leading Tomorrow logo]

ANNUAL REPORT

2024 Latina Labs

Summer Camp

Call Find Us

571-721-1780

Website us

www.latinasleadingtomorrow.org

Introduction

The Latina Labs/Science, Technology, Engineering, and Mathematics (STEM) program was launched in 2014 through 2017 as an in-person pilot program in Arlington, VA where latinas Leading Tomorrow was established. In 2021, 2022, and 2023 the Latina Labs/STEM program was offered virtually and expanded to the D.C./MD/VA area. The Latina Labs/STEM program seeks to inspire and expose middle school Latina students to STEM topics and opportunities, and to serve as conduit for young girls to explore their inner talents in fun ways. Another goal is to connect Latinas to successful individuals in these fields that look like them to potentially serve as their mentors and to encourage them to believe in themselves. The Latina Labs/ STEM program opens doors to students to explore new opportunities such as pursuing a field in STEM or simply realizing that traditional barriers in STEM fields can be overcome. In 2024, the program was offered again in person with great success!
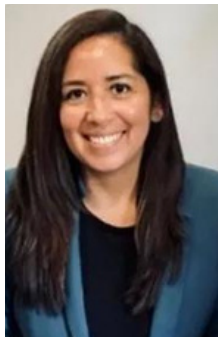
Our Team

The Latinas labs/STEM Program planning and implementation was successfully performed by the Latina Labs/STEM Committee with support from the LLT Board of Directors.

LLT Board of Directors

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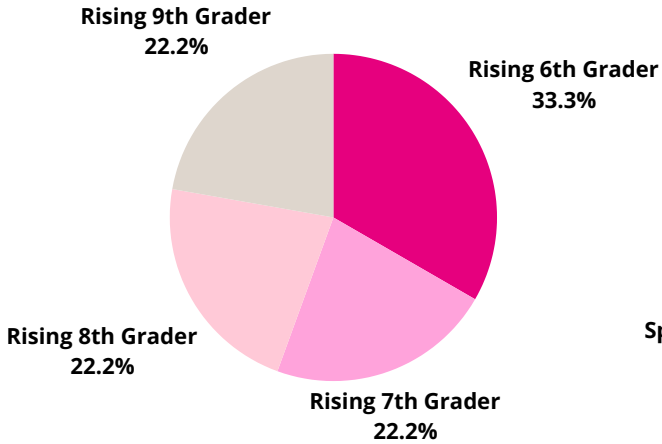
Jessica Salvador Latina Labs
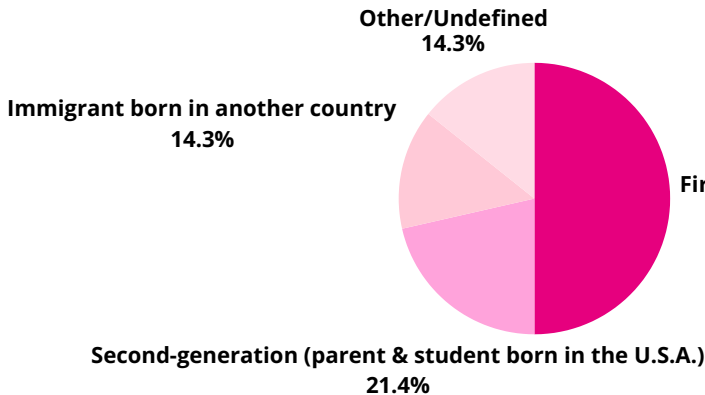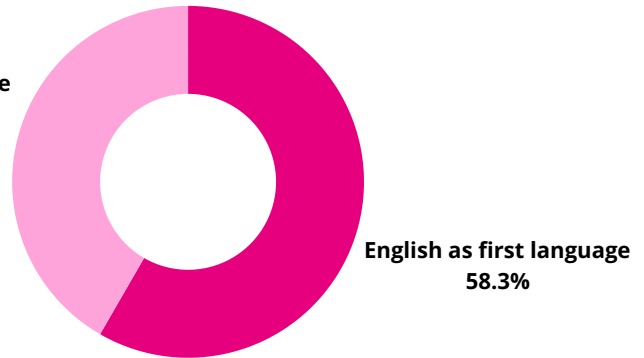
Latina Labs Cohort 2024

Our participants consisted of young Latinas from elementary and middle schools across the DC metropolitan area. They were selected by the Latina Labs Committee based on the strength of their applications and recommendations, which examined their need, academics, extracurricular activities, and community involvement.

Rising 9th Grader
22.2%

Rising 6th Grader
33.3%

Rising 8th Grader
22.2%

Rising 7th Grader
22.2%

DISTRIBUTION OF STATES REPRESENTED

85.7% VIRGINIA

14.3% MARYLAND

Spanish as first language
41.7%

English as first language
58.3%

Other/Undefined
14.3%

Immigrant born in another country
14.3%

First-generation (parent born in another country & student born in the U.S.A.)
50%

Second-generation (parent & student born in the U.S.A.)
21.4%

Schools Represented

- Bull Run Middle School
- Dorothy Hamm Middle School
- George Washington Middle School
- Glasgow Middle School
- Gwynn Park Middle School
- Katherine Johnson Middle School
- Kenmore Middle School
- Riverside Elementary School
- Silver Creek Middle School
- South County Middle School
- St. Francis of Assisi Catholic School
- Woodbridge Middle School

Countries Represented

- Bolivia
- Costa Rica
- Dominican Republic
- El Salvador
- Honduras
- Mexico
- United States

Latina Labs/STEM Curriculum

Welcome Remarks

Dr. Becerra delivered an inspiring message to students encouraging them to chart their own path, work-hard, persevere, and enjoy the ride. Proceeding her, Carolina Alvarez-Gardiga, an MD and Epidemiologist currently at FDA, and Sara Fernando Martinez, Director of Clinical Sciences at NeoImmuneTech.

These role models, who reflect the students' backgrounds, aimed to motivate the students to pursue careers in STEM.

Featured Guest Speaker: Dr. Irma Becerra, PhD, President of Marymount University

Technical Applications/AI

Dr. Alex Mbaziira

With the help of two rising high school students Dr. Alex Mbazira explained AI by using Canva. They explained how AI can be used to generate an image with a prompt and that the image can be more defined based on the specificity of the instructions given to the AI algorithm. The students had a blast combining their imagination with AI to create different designs.

Biology: Turtle Trapping

Turtle Trapping included a field trip to Ashby pond, located in Fairfax, where Dr. Rimkus was helping safely relocate turtles ahead of a construction project at the pond. The students saw real-time how the turtles are captured, relocated, and will be tracked with the help of a tracking chip.

It was a wonderful hands-on experience to learn about ecology in their local community.

Dr. Todd Rimkus

Engineering: 3D Printing

Dr. Erick Bubar

The students learned about 3D printing and how it can be harnessed to build affordable prosthetics for people with missing limbs. They worked on designing their own 3D models including an "unmelting snowflake" topper which was 3D printed for the students to take home at the end of their camp experience. The combination of technology and sparked-curiosity made for a truly engaging experience!

Cell and Molecular Biology: DNA Extraction

The students collected samples from the ozone plot against hunger garden to examine under a microscope and collect their observations. They were also exposed to laboratory equipment to extract DNA from spinach.

Dr. Susan Agolini

Latina Labs/STEM Curriculum

Biomedical Engineering: Tissue Engineering

The students designed and developed gels that were then mechanically tested to see how current runs through different mediums. This activity showcased the exciting world of biomedical engineering,

Dr. Shama Iyer

Math: Straight-cut-Origami

Students investigated the fold-and-cut problem/straight-cut-origami. Given a shape, is there a way to fold it up so that you can cut it out with a single straight cut? Geometry was a big theme in this session where students learned the basics of geometry through different shapes including triangles, circles, and how triangles form star-shapes.

Dr. Jacquie Rische

Engineering: Robot Dogs

Dr. Shama Iyer

Students took on the challenging task of assembling and programming robot dogs. They worked together in teams screwing, sequencing, identifying orientations of parts, and learning about the inner workings of motors.

Final Presentations and Certificates

Participants were divided in teams and worked together to develop a presentation on their favorite topics covered during the STEM camp and presented to their parents. LLT recognized their efforts by presenting each camper with a certificate of completion.

Our Impact in Photos

Middle school students was the subpopulation of focus for the latina/STEM Labs to expose them to importance and impact of careers in STEM through hands-on activities. Throughout the week the girls engaged in various exciting activities that sparked their curiosity and help them realize that they can pursue these fields in STME in their heart desires.
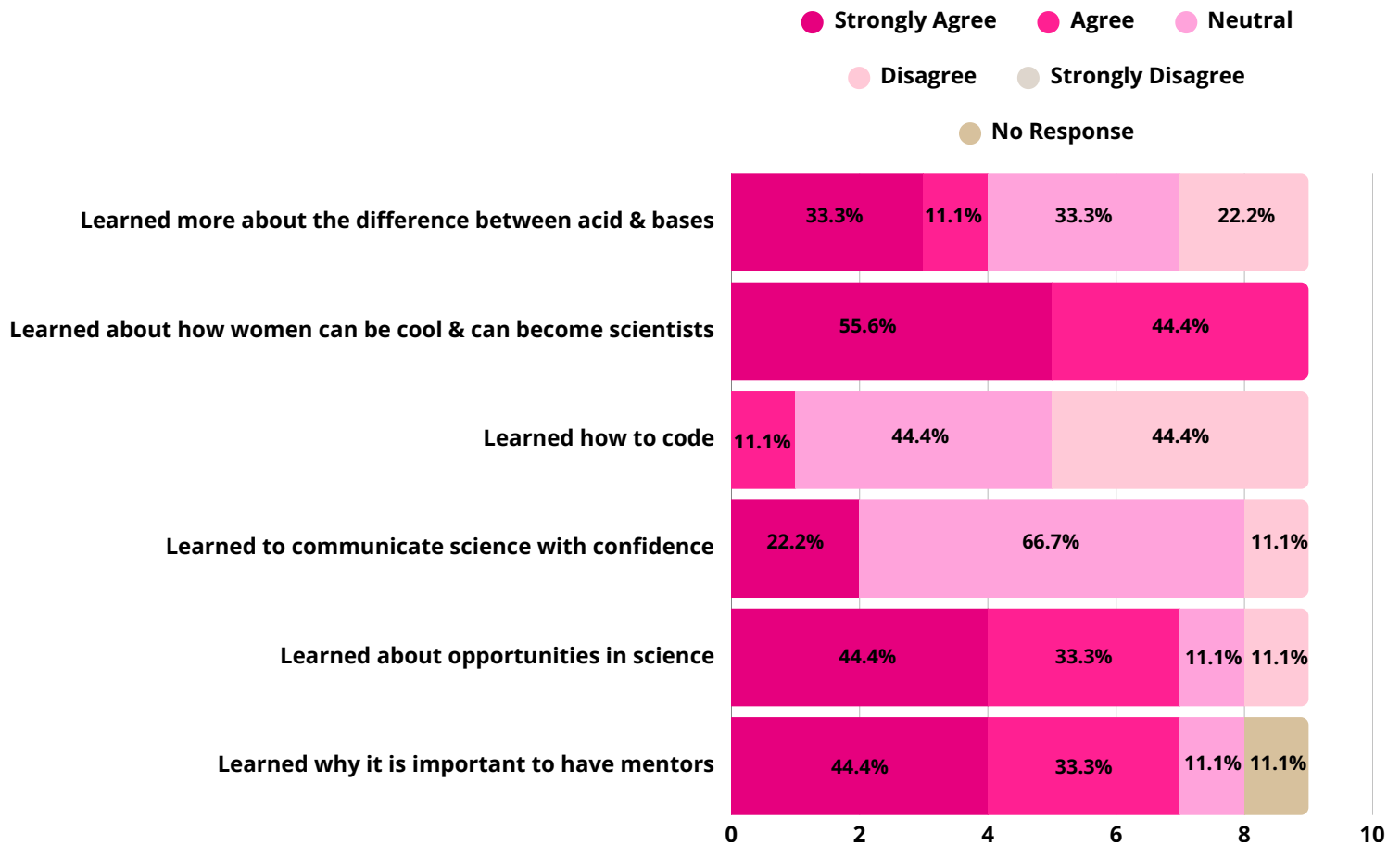
Our Impact

Participants completed an assessment survey before and after our program to evaluate their progress. The assessments focused on perceived interests and support for pursuing STEM, as well as the participants' self-interests and knowledge in STEM. This approach helped gauge the impact of the camp's hands-on activities in sparking interest and enhancing knowledge in these fields.

*Based on surveys from 9 participants

LINKERT (DIVERGING) SCALE FOR SENTIMENT ON PARTICIPANT EVALUATIONS AFTER LATINA LABS

Legend: ● Strongly Agree ● Agree ● Neutral ● Disagree ● Strongly Disagree ● No Response

Question	Strongly Agree	Agree	Neutral	Disagree	No Response
Learned more about the difference between acid & bases	33.3%	11.1%	33.3%	22.2%	
Learned about how women can be cool & can become scientists	55.6%	44.4%			
Learned how to code	11.1%		44.4%	44.4%	
Learned to communicate science with confidence	22.2%		66.7%	11.1%	
Learned about opportunities in science	44.4%	33.3%	11.1%	11.1%	
Learned why it is important to have mentors	44.4%	33.3%	11.1%		11.1%

(x-axis: 0, 2, 4, 6, 8, 10)

Prior to Latina Labs, even though **100%** of participants were open to exploring careers in STEM, only **36%** felt comfortable expressing their ideas and asking questions during STEM activities **on a regular basis**. However, **after participating in Latina Labs**, the participants:

- ✸ **100%** would recommend Latina Labs to other students
- ✸ **100%** felt part of a welcoming community
- ✸ **100%** were happy they participated in Latina Labs
- ✸ **88.9%** rated Latina Labs as excellent and fun
- ✸ **85.7%** became more curious about the sciences after participating in the Latina Labs Camp

Acknowledgements

This would not be possible without the generous support of our sponsors: Marymount University, Glenn W. Bailey Foundation, Dominion Energy, and Pentax Medical. We are deeply grateful for our sponsors.

Latina/STEM Labs Volunteers

GUEST SPEAKERS

Dr. Irma Becerra Fernandez

Dr. Sara Ferrando Martinez

Dr. Carolina Alvarez-Garriga

PROGRAM SUPPORT STAFF

Emily Velazquez

Sofia Guiton

Claudia Ochoa Rodas

Daniela Gonzalez Castro

Our Sponsors

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