

DRIVING RACE AND GENDER EQUITY IN **STEM**

2021 ANNUAL REPORT





LEARNING UNDEFEATED IS DRIVING RACE AND GENDER EQUITY IN **STEM** THROUGH EXPERIENTIAL AND DEEP-IMPACT LEARNING EXPERIENCES FOR STUDENTS FROM UNDER RESOURCED COMMUNITIES.



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2020-2021 **PARTNERS**

Learning Undefeated is able to provide innovative programs and resources to educators, students, and communities at no cost thanks to generous donors and supporters.

SIGNATURE PARTNERS



















COMMUNITY PARTNERS

Advancing Black Lives in Education (ABLE) Avance Austin

Bender JCC of Greater Washington Black Coalition Against COVID-19

Boys & Girls Clubs of Metropolitan Baltimore

Building STEPS

The Children's Inn at NIH

DC Health

FAME

Five Medicine

Fort Meade Alliance

Housing Opportunities Commission of Montgomery County

Leadership Council for Healthy Communities

Maryland Tech Council

Mary's Center

Montgomery County Economic **Development Commission**

NASA

Naval Medical Research Center

Kingswood, The Warehouse

NIH-National Cancer Institute

REACH Riverside

STEM for Her

Walter Reed Army Institute of Research The WRK Group: REACH Riverside.

CORPORATE & FOUNDATION PARTNERS

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AT&T

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Quality Biological Inc. REGENXBIO

SAP

Scheer Partners

Toyota USA Foundation

EDUCATION PARTNERS

Baltimore City Public Schools Building Engineering and Science Talent Calcasieu Parish School Board Delaware Technical Community College Department of Defense, Defense STEM Education Consortium (DSEC)

Discovery Education

Frederick County Public Schools

Maryland State Department of Education Mobile Laboratory Coalition

Montgomery College

Morgan State University Region 5 STEM Center, Louisiana

RTI International Texas Education Agency

University of Maryland

University of Maryland Bio Park



to our stakeholders, and doing even

better for the next million students

we reach.

It is undeniable that the COVID-19 pandemic and the racial and social justice movement have reshaped our country's social fabric and education landscape. Leaders across our society are all asking the difficult questions, including how their organizations and communities will adapt to meet the significant needs of the moment.

At Learning Undefeated, we're answering this question by doubling down on what we've been doing for the past 20 years and deepening our commitment to serving students, schools, and communities that need it most. Learning Undefeated is committed to driving race and gender equity in STEM by providing access to experiential and deep-impact learning experiences for students in under resourced communities.



All of our programs focus on building and reinforcing **STEM identity,** nurturing students' beliefs that they can be successful in a STEM job, and there is a place for them in the innovation workforce. Positive, fun experiences with our educators increase student confidence, leading them to seek gradually more complex interactions with STEM subjects and activities. This pathway through our education programs galvanizes students' self-confidence and reinforces the belief that a STEM career is achievable.

For those familiar with our organization, you'll continue to see our proven flagship programs, such as our growing fleet of leading-edge mobile STEM labs, engaging summer STEM experiences, and our evolving catalog of STEM career exploration resources. However, you'll also note that our program offerings and teacher resources have expanded dramatically. Learning Undefeated now offers a comprehensive STEM program suite that includes both exploratory and deep-impact programs, introducing K-16 students to the STEM way of thinking while cultivating collaboration and problem-solving skills.

A taste of these programs is highlighted in this report, including:

- · Talent accelerator programs, including our Emerging Leaders in STEM for young women and Young Science Explorers Program for middle schoolers. These programs showcase STEM professionals of all races, genders, and ethnicities, providing intensive topic instruction and bringing STEM careers to life.
- Hybrid STEM learning bundles, which combine standards-aligned laboratory investigations, multimedia STEM resources, collaborative assignment tools, and interactive assessments—all free to use and open to all teachers and schools.
- At-Home Science explorations, which allow students to complete their own investigations at home with everyday materials.

We are excited about the road ahead and believe that Learning Undefeated is poised to make an even bigger impact. On behalf of our team, we are thankful for your partnership and support.

Warm regards.

BRIAN GAINES CEO. LEARNING UNDEFEATED

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BUILDING STEM IDENTITY

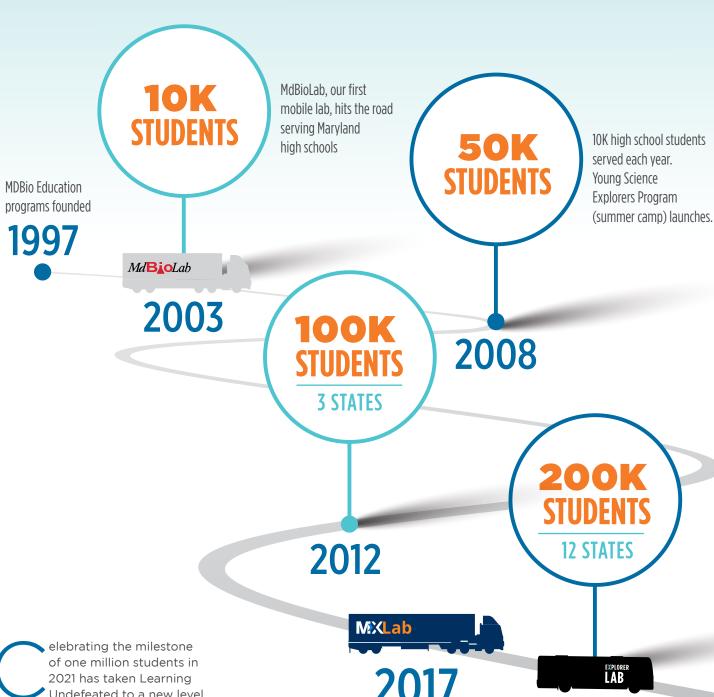
Il of Learning Undefeated's programs focus on building and reinforcing STEM identity: a student's belief that they can be successful in a STEM job, and there is a place for them in the innovation workforce.

STEM identity is formed through a series of positive, fun experiences that increase student confidence, and lead them to seek out additional interactions with STEM subjects and activities. A powerful experience with one of our education programs galvanizes students' self-confidence and reinforces the belief that a STEM career is achievable.

Our comprehensive STEM program suite includes both exploratory and deep-impact programs, introducing K-16 students to the STEM way of thinking while cultivating collaboration and problemsolving skills.







Undefeated to a new level. When schools were closed due to COVID-19, our culture of innovation led to the creation of hybrid learning resources to keep students connected to STEM subjects. Combined with our flagship mobile laboratories and in-person programs, Learning Undefeated's impact has been amplified more than 5X this school year and continues to grow.

2017

MXLab, the country's largest mobile STEM lab, is born.

MdBioLab deployed for STEM disaster recovery in Texas gulf coast region. 2018

Mars-themed Explorer Lab launches for grades 5-8, and travels the country.



250K 18 STATES

DROP ANYWHERE LABS

DROP ANYWHERE LABS

2019

Three Drop Anywhere Labs, built from shipping containers, begin serving middle schools

500K **STUDENTS ALL 50 STATES**

AND GROWING!

2020

Virtual and hybrid programs developed in response to COVID-19 are adopted by teachers in all 50 states. Acquired Spark 101

SPARK 101

Widest student reach yet with six mobile labs and hybrid programming suite!



After a year in New Orleans, the one-of-a-kind Explorer Lab returned to the Washington, DC area this school year. This custom-built motorcoach bus takes

students on a five-minute trip across the solar system, visiting each planet through a jaw-dropping 360-video experience before landing on Mars. After touching

down, students design their own rover on individual tablets and then complete a series of activities designed to help them think and problem solve like an engineer. Throughout the experience, students make engineering tradeoffs between power and func-



EXPLORER

tionality, reinforcing concepts of engineering design.

LEFT LEARNING UNDEFEATED TEAM, MAY 2021

MOBILE LABS ON THE ROAD

he 2020/21 school year brought new ways of delivering education, and the Learning Undefeated rose to the challenge by being flexible, creative, and tirelessly committed to bringing STEM opportunities to under resourced communities.

MXLAB IN TEXAS

Navigating intermittent school closures and operating under stringent safety protocols, the Texas Mobile STEM Lab completed a full school year, serving more than 3,600 K-8 students. Criss-crossing the state and traveling thousands of miles, the lab visited all 20 education service regions of Texas from Beaumont to El Paso. Learning

Undefeated's Texas curriculum centers around cross-curricular STEM experiences that engage students with the engineering design process through exploration of real-world problems.





MOBILE LABS DELIVER COVID-19 VACCINES



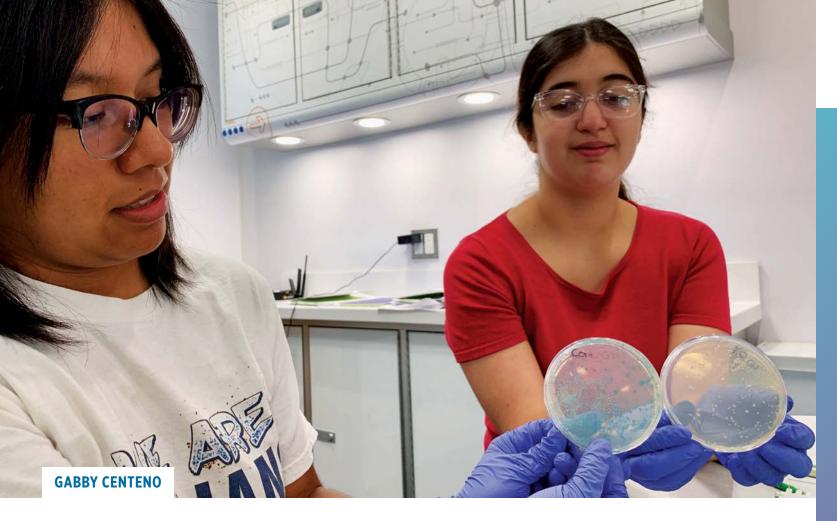
sound, touchscreen walls, and interactive gameplay to build understanding middle school students. But due to COVID-19, these flexible labs got a chance

a different way: deployed as mobile vaccine clinics. based Faith in the Vaccine ed's Drop Anywhere Labs DC senior citizens in Wards 5, 7, and 8 to receive their

having to leave the neighborhood. We are proud to have been able to bring our mobile labs communities and support vaccine distribution.







DEEP IMPACT PROGRAMMING

FACES OF LEARNING UNDEFEATED: GABBY CENTENO

rising sophomore majoring in biology at Montgomery College (Germantown, Maryland), Gabby Centeno is one of more than 50 college students serving as a mentor in Learning Undefeated's new Emerging Leaders in STEM talent accelerator program.

A 19-year-old, first-generation college student, Gabby is coaching high school students in advanced biotechnology techniques, while learning new laboratory skills and making professional connections with female luminaries in STEM fields.

Built on a near-peer mentorship model, Learning Undefeated's Emerging Leaders in STEM is driving race and gender equity by connecting young women ages with in-demand STEM content and inspiring them towards high-growth careers.

The Emerging Leaders in STEM program fosters meaningful connections between Black and Latina women ages 14 to 22 by combining hands-on workshops that nurture skills, knowledge, and support to pursue careers in biotechnology plus career-focused sessions where students gain exposure to

a wide range of military, cyber, and biotechnology jobs.

"When high school women get to make that connection with college women, they get to see a little snippet of themselves in the future. That not only inspires them, but it also empowers them to do the best that they can, take as many opportunities as they want, and enjoy their full right of whatever their self-discovery is."

— GABBY CENTENO

EMERGING LEADERS

in STEM

Talent Accelerator for Young Women

Introduced in 2021, Emerging Leaders in STEM is a rigorous, hybrid cohort experience that connects young women ages 14-22 with in-demand STEM content and inspires them towards high-growth careers. More than 100 female participants have completed the program across two cohorts.

BIOTECHNOLOGY | COHORT ONE [SUMMER 2021]

BIOTECH + CYBER | COHORT TWO [FALL 2021]

BIOTECHNOLOGY | COHORTS THREE & FOUR | SPRING 2022 |

This intensive experience builds career readiness and networking skills, focuses on STEM role models who reflect participants' background and ethnicity, and teaches advanced laboratory techniques. More than half of participants are currently (or will be) first generation college students, and many are considering med school, biology or engineering related fields of study.



"Thank you for this amazing program. I had this love-and-hate relationship with laboratory activities and you strengthened my love for it. I am very confident taking AP Bio this year ... you have definitely made a big difference in my life."

GORDINA HERBERT, 12TH GRADE STUDENT

AND EMERGING LEADERS IN RIOTECHNOLOGY MENTER



IN-PERSON AND DIGITAL SUMMER CAMP FOR GRADES K-8

Over 300 K-8 students across three states participated in our 2021 STEM summer camps. Physical and virtual summer camps reengaged students in learning after a very difficult school year for many students. Each day, campers were introduced to a new STEM topic—including chemical reactions, properties of matter, and forces and motion—then spent the day exploring concepts through games, experiments, and challenges.



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2020-2021 SCHOOL YEAR ACCOMPLISHMENTS

807,010

STUDENTS IN ALL 50 STATES + DC + PUERTO RICO



3,000 AT-HOME **SCIENCE KITS**

4.500









STUDENTS VISITED BY OUR MOBILE LABS



DELAWARE STEM ECOSYSTEM

This fall, Learning Undefeated kicked off a multi-year partnership to bring hands-on STEM education to Wilmington, Delaware students. The community-based partnership engages local students with STEM concepts through hands-on education and introduces them to in-demand STEM careers located right in their own backyard. The program combines Drop Anywhere Lab school visits with weekly afterschool STEM programming at The Warehouse, a teen-led community center in the Riverside neighborhood created for teens, by teens.

"Our partnership with Learning Undefeated illustrates our ongoing commitment to bring the right tools, resources, and people to Wilmington's youth. This STEM program helps build the knowledge and skills teens need to thrive in our 21st-century economy. Putting professionalgrade science equipment in teens' hands and connecting scientific investigations to local careers opens our youth's eyes to a whole new world of possibilities."

— MELODY PHILLIPS WAREHOUSE'S DIRECTOR OF OPERATIONS **TEEN WAREHOUSE**

This new collaboration supports the development of a Delaware STEM ecosystem, creating educational opportunities for teachers and students based on the leading-edge research and development within the local community.

PARTNERS



LEARNING UNDEFEATED





DISASTER RECOVERY

Beginning in 2017, Learning Undefeated began deploying mobile labs to disaster-impacted communities, creating what would be come the only STEM-focused disaster recovery program in the country. To date, more than 25,000 students in Texas, Puerto Rico, and Louisiana have benefited from this program.

In 2021, we offered summer camps for students in communities hit hard by COVID-19, focusing on reengaging students with learning and preparing them to return to in-person classes.

"The Mobile STEM Lab is an awesome engaging experience for students of all ages. The mobile team instructors create a love for science by getting students involved in every aspect of STEM. One of my eighth grade students asked if we could visit the mobile lab on a weekly basis."

— AMY MOSES, TEACHER RIO VISTA MIDDLE SCHOOL **RIO VISTA, TEXAS**

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THRIVING IN THE TIME OF HYBRID LEARNING



he 2020/21 school year was unlike any school year we had ever known: a patchwork of digital platforms, school closures, many students without access to reliable internet, and restrictions on school visitation. Never discouraged, Learning Undefeated's education team found dozens of creative ways to deliver STEM resources to teachers and students, resulting in the development of many new products and services.

AS A CORE PART OF OUR MISSION, LEARNING UNDEFEATED'S RESOURCES ARE FREE TO TEACHERS, STUDENTS, AND SCHOOLS.

As teachers and school systems rushed to implement digital learning, several longstanding school system partners called on Learning Undefeated to adapt classroom content for these new digital platforms. Our educators co-developed digital lesson bundles with collaborative assignments and multimedia resources for Maryland's largest school systems, Montgomery and Howard Counties, which combined serve more than 200,000 public school students.

AT-HOME SCIENCE KITS

More than 3,000 At-Home Science Kits were developed at the request of Prince George's County Public Schools [Maryland], who wanted to engage students with hands-on science investigations during school closures. Experiments were tied to the work students were already doing virtually in their science classes, on topics ranging from macromolecules to how cells convert energy. The kits were accompanied by Learning Undefeated's At-Home Science mobile phone app, which included video tutorials of each activity along with other student-focused video content.



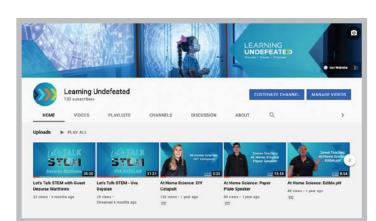
MORE THAN 500 STAFF AND VOLUNTEER HOURS
WENT INTO PACKING 3.000 AT-HOME SCIENCE KITS





ANYWHERE LABS

Anywhere Labs are Learning Undefeated's standardsaligned distance learning bundles for middle and high school teachers. These hybrid lesson bundles combine laboratory investigations, multimedia STEM resources, collaborative assignment tools, and interactive assessments. In addition to the Anywhere Labs educator resources, this year Learning Undefeated also created more than 30 short At-Home Science video experiments designed for K-12 students to do at home with everyday household materials.





LESSON TOPICS

Biology

Chemistry

Computer Science

Earth & Space Science

Engineering

Environmental Science

Forces & Motion

Genetics

Health

Inheritance of Traits

Interdependent Relationships in Ecosystems

VISIT US

ANYWHERELABS.ORG

Life Science

Physical Science

Physics

Space & Solar System

Structure & Function

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SUPPORT OUR WORK >>>>



GET INVOLVED & SUPPORT OUR WORK

VOLUNTEER

- > Volunteer on our **mobile laboratories** or in > Show your ongoing support by the classroom with our educators
- > Engage with students as a guest speaker, in person or virtually, through one of our programs to share your story and inspire students to consider a career in STEM
- > Lend subject matter expertise to our content development team as we continue creating new and engaging activities across a variety of STEM disciplines
- > Help us grow our audience by becoming a Learning Undefeated Champion to help promote and share our resources across your network and social channels

FUND A PROGRAM

- > Support our mobile STEM laboratory program by sponsoring mobile lab visits in your priority geographic markets
- > Sponsor an **Emerging Leaders program**, our YSEP summer camp programming, or an ATLAS College & Career Readiness symposium in your own community
- > Boost our **Digital STEM Learning Hub** by supporting our Let's Talk STEM series, our At-Home Science Kits, or our Equipment & Activity Teacher Loaner Lab program
- > Sponsor a specific lab activity for curriculum development

DONATE

- donating online and considering a recurring donation each month.
- > Shop with Amazon Smile! Choose Learning Undefeated as your selected charity when shopping on smile.amazon.com and Amazon will donate a portion of your purchases to support our mission.

Learning Undefeated is able provide innovative programs and resources to educators, students, and communities at no cost thanks to our generous donors and supporters.



The question was: how can we deliver hands-on research experience for our students? Learning Undefeated had the answer.... To have the students conduct science research [at home] despite the coronavirus limitations, it really sets them along the path of being not just college and career ready, but college and career STEM ready."

SCIENCE & TECHNOLOGY INTERNSHIP PROGRAM COORDINATOR CHARLES H. FLOWERS HIGH SCHOOL. SPRINGDALE. MARYLAND

Reach out to partnerships@learningundefeated.org to find out how you can get involved and support our mission.



