

# FirstHand

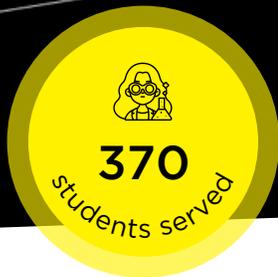
## 2021 Impact Report



FirstHand offers free year-round supplemental STEM learning for middle and high school students. Our curriculum is designed to provide skills-based career exposure through real-world, hands-on experience. Our FirstHand Lab connects students from surrounding neighborhoods to the entrepreneurial and innovation ecosystem in Philadelphia.

### 10 SCHOOL PARTNERS

- Belmont Charter Middle School
- Chester A. Arthur
- KIPP West Philadelphia Preparatory
- James Rhoads
- The City School
- S. Weir Mitchell
- John F. McCloskey
- William C. Longstreth
- Young Scholars Charter
- Paul Robeson High School



"I felt like a scientist when I figured out how to use the microscope and seeing everything up close. And doing this STEM class made me think about my future and I can see myself working with a microscope."

**CHARLOTTE, 7TH GRADER**



paid internships



mentor companies include:



STEM kits assembled and delivered to student classrooms and homes for virtual learning



"Many thanks to you and the organizers for creating such an important space for these students. I wouldn't be here myself if it wasn't for people like you who furthered my STEM education at such an early age."

**- BRENDA SALANTES, PH.D.**  
MENTOR FROM CENTURY THERAPEUTICS

### FIRSTHAND <> UNIVERSITY CITY SCIENCE CENTER

FirstHand is an initiative of the University City Science Center, Philadelphia's premier catalyst of entrepreneurial activity, healthcare innovation, and economic growth. Beyond providing best-in-class startup and entrepreneurial support, we recognize that the success of Philadelphia's growing life sciences industry hinges on our collective ability to grow and diversify the STEM talent pipeline.

# CURRICULUM

## MIDDLE SCHOOL

### STEM IN THE REAL WORLD

"When would I ever use this in real life?!" - a question often asked by students. This program explored real-life applications of science. Students made their own thermometer, hand sanitizer, and speaker with easy-to-find materials.

### HI-5

Five days, five STEM career paths. Hi-5 highlighted careers in microscopy, material science, taste and smell research, and more. FirstHand alumni served as near-peer mentors by helping to develop student activities and supporting facilitation of the sessions.

### CHEMISTRY

Students produced chemical reactions in their own homes. This program taught them about exothermic reactions, gave them a chance to change liquids into solids, and enabled them to study the pH of liquids they use every day.

### MATERIALS SCIENCE

Students created and studied materials like magnetic slime, conductive paint, and milk-based glue, and then connected the materials to everyday life.

### DESIGNING WITH SCIENCE

Students applied scientific principles, experimentation and design to make color-changing paint out of red cabbage powder and solutions of different pH levels. They created biodegradable Legos using bioplastic and tie dyed their own face masks using natural pigments.

## HIGH SCHOOL

### BIODESIGN CHALLENGE

A collaboration with Berlin-based AULA Future, students developed two projects for the Biodesign Challenge, an international competition that encourages the exploration of biotech's entanglements within society.

### FIRSTHAND VENTURES

FirstHand Ventures engaged previous program participants by providing funding and support to develop their own business plans. Students created their own marketing materials and budgeted for supplies.

### PAID INTERNSHIPS

FirstHand alumni participated in a variety of paid internships including biotechnology with Cabaletta Bio; marketing and design with brand agency Cohere; and even opportunities with FirstHand to help develop and implement future STEM programming.

## STEM MENTORS

### LUNCHTIME LABS

When students couldn't visit the FirstHand lab in person, we brought the labs to them! Lunchtime Labs offered a virtual look inside professional labs and introduced learners of all ages locally and beyond to STEM careers - expanding access to FirstHand.

## 2021 MILESTONES

### \$4M US Department of Education Grant

The Science Center, in collaboration with evaluation partner AnLar LLC, was awarded a 5-year grant enabling FirstHand to advance educational opportunities for more underserved middle school students.

### GSK STEM Equity Grant

The Science Center received a \$150K STEM Equity Grant from GSK for FirstHand, as part of GSK's commitment to increase the number of diverse Philadelphia students entering STEM careers by 2030.

### Cabaletta Bio internship

After co-hosting a Lunchtime Labs session featuring Cabaletta Bio, 16-year-old, Sultanah Harper was recruited by the same uCity Square-based biotech company for a summer internship.

### Students advance in Biodesign Challenge

Students advanced to a final round and presented to an international audience at the Biodesign Summit.

## FUNDERS

AmerisourceBergen



CHUBB



The McLean  
Contributionship



Companies can also support FirstHand through the Educational Income Tax Credit Program (EITC). EITC allows eligible businesses to turn up to 90% of charitable contributions into tax credits.

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