YOUTH ENGAGEMENT:

- **YOUTH PARTICIPANTS:** 377
- **AVERAGE PROGRAM HOURS PER STUDENTS:** 20.7

MENTOR PARTICIPATION:

- **PROFESSIONAL MENTORS:** 60
- **COMPANIES ENGAGED IN MENTORING:** 22

EDUCATOR ENGAGEMENT:

- **EDUCATOR PARTICIPANTS:** 87
- **EDUCATOR ENGAGEMENT HOURS:** 660

PROGRAM METRICS:

- **YOUTH PROGRAMS:** 29
- **AVERAGE STUDENT-TEACHER RATIO:** 7:1

YOUTH PARTNERS:

- Alain Locke School
- Chester A. Arthur School
- Belmont Charter School
- The City School
- Girard College
- James Rhoads School
- KIPP West Philadelphia Charter
- John F. McCloskey School
- New Foundations Charter School
- Paul Robeson High School
- School of the Future
- Science Leadership Academy Middle School
- Sunrise of Philadelphia, Inc.
- S. Weir Mitchell Elementary School
- The Workshop School

Nearly two out of three students reported greater self-efficacy after participating in a multi-week program, and the change was statistically significant.

FirstHand added three youth partnerships and served 65 more students in 2019 than in 2018.

Eight out of ten students said they learned “a lot” or a “tremendous amount” in FirstHand.

My students have blossomed into entrepreneurs, scientists and creative thinkers. I watched some of my shyest students come out of their shell, and FirstHand has given them the voice and knowledge to be active, critically thinking members of society.

Dr. Katherine Carter
Principal of Alaine Locke Elementary
Equal parts Science, Technology, Engineering, Arts and Math, FirstHand’s mission is to provide Philadelphia’s curious minds access to the knowledge and resources of the University City Science Center. By fueling discovery and exploration with interactive programming, we are opening the doors for the minds of tomorrow.

Through hands-on programming and real-world experience, FirstHand programs allow students to conduct experiments, gain new skills and work towards final design projects to share with the community. Every program is supplemented with mentorships through the Science Center’s resident companies, where students learn about real-life entrepreneurship from professional scientists and researchers. FirstHand also provides interactive workshops and trainings for educators interested in integrating challenge-based STEM education into their classrooms.

**FirstHand Curriculums**

**DNA SELFIE** We’re taking selfies of our DNA! In this workshop, students create a new kind of self-portrait by studying their own DNA and designing projects based on the beautiful geometry of the double helix.

**POLYMER PLAY** teaches youth how to turn their imaginations into science. Classroom hypotheses become material experiments as students create their own polymers.

**AMP IT UP** explores the inner workings of the batteries and circuits that power our daily activities. Students step into the world of electrochemistry, tinker with designing different types of batteries and experiment with electrical circuits.

**BIOMAKE** transforms students into synthetic biologists and product designers. Developed with researchers at the University of Pennsylvania, students create their very own genetically modified organisms, then design, bake, and market a snack utilizing their GMO.

**HEALTH HACKERS** exposes aspects of health and wellness, understand basics of computer logic through the programming tool, Scratch, learn mobile app design, and apply physical computing using Makey Makey. This industry-relevant curriculum was developed and taught alongside computer science professionals from the Children’s Hospital of Philadelphia.

**TASTE TEST** lets students play with their food and experiment with their senses. Students learn about the factors that affect flavor, how the senses work together when they eat, and understand why each person’s unique genetics influence their tasting experience.

**PROJECT INQUIRY** is designed to give high school students a more in-depth and focused experience exploring concepts in engineering, design, technology and entrepreneurship with mentor-driven curriculum activities.

The Science Center’s FirstHand program is a recognized Educational Improvement Organization under the Educational Improvement Tax Credit program (EITC) of the Pennsylvania Department of Community and Economic Development.