

### **Middle School Program (MSP) Overview**

CitySprouts partners with public schools to integrate garden-based learning in schools' curriculum and culture. Our School Partnership Program and the Middle School Program combined provide children and youth with comprehensive year-round programming. The CitySprouts Middle School Program provides out-of-school-time opportunities for young people ages 11-14 to gain confidence and skill in science, technology, engineering and math (STEM) practices by exploring ecosystems and food systems. Using a combination of gardening, cooking and exploring the neighborhood as a vehicle, our tuition-free after school and summer programs guide young people through projects that engage them in science practices, encourage life-long habits of health, and give them practice being leaders in their community.

Our aim is to inspire young people's engagement in STEM; to promote healthy choices about what they eat and expand their interest in food systems; and to foster a solid foundation for social-emotional development at a critical time in their young lives. Our MSP curriculum is rooted in project-based activities that encourage youth to think critically and abstractly about the world around them. It also explicitly incorporates social-emotional skills to help youth better know themselves and their peers, to make strong friendships and to positively contribute to their community. Family engagement is a core element in all parts of our MSP curriculum. We recognize that building strong and active relationships with the families of young people in our MSP is key: it helps us get to know the youth in our program more deeply, it helps build youth participants' trust in our staff, and it helps extend and strengthen the interests that youth develop in the CitySprouts program to their lives in high school and beyond. The MSP has three programs for youth.

CitySprouts **Summer Youth Program** is a 6-week program for rising 6th - 8th graders based in the school garden July and August. Summer interns care for the school garden, and harvest and cook a meal from it most days. Through structured activities, field trips, and guest expert visits, they are introduced to how science and systems intersect with social justice in their communities as they develop their own group project. Our summer program is also a well-scaffolded introduction to the workforce for young people moving from childhood to teen-hood: All youth who complete the 6-week internship are given \$150 in recognition of what they've learned about stewardship and to reflect the value of their community contribution. Our tuition-free summer program has the capacity to serve 90 students. In summer 2018 it was held at the four Upper Schools in Cambridge and two in Boston over a six-week period (Monday through Friday 9am – 1pm). Our 2018 summer youth interns set a variety of goals for themselves:

*My goal was to learn about social justice issues and do science experiments and engineering, which was accomplished but I still want to learn more.*

*My favorite part of the CitySprouts internship was talking about climate change and farmers, making a new recipe and doing science/engineering projects.*

*I liked cooking and eating the most.*

*My favorite part of the internship was learning about the carbon cycle.*

*My goal was to make new friends and learn [how to make] one full meal. Both were accomplished.*

In 2018 CitySprouts expanded its summer program to two additional sites in Boston this summer: Orchard Gardens Pilot School in Roxbury and the McKay K-8 School in East Boston. We also made a significant change to our summer program this year by extending our summer program from two 4-week sessions to one 6-week session. Establishing our summer program in Boston is part of CitySprouts' long-term goal to increase youth access to STEM and garden-based learning. Working with two of our school partners, one in Roxbury and one in East Boston, we were able to open up this rich summer learning experience to 30 additional youth (23 places were filled in this first year). Expanding the summer program model to 6 weeks allows for more time for youth to explore core focus areas in curriculum; more time for youth to develop projects in curriculum; and time to build in more staff training/preparation time and allows time for capturing summer learnings before our school year program begins. One longer session means that we have fewer places for youth than two 4 shorter sessions but we ultimately felt that the "deeper dive" for fewer youth was worth it. The decision was based on feedback from families and youth, Cambridge Public School leadership, and research that shows a significantly higher positive impact on youth engagement with a minimum of 100 hours (our new program results in 120 direct-service hours, a 50% increase).

CitySprouts semester-length **After-School Program** is held at six middle schools in Cambridge and Boston in fall or spring (three schools each season). At each site, our program is framed around a semester-long project using science and engineering practices to explore food systems. Sessions are held weekly for 45- 85 minutes (length depending on the school site).

*This past year CitySprouts developed a new module in our after school curriculum. Our new Climate Justice module gives youth an opportunity to delve deeply into both the science and social impacts of a very complex problem. It balances the science of climate change and the role humans play in causing it, introducing youth to a variety of change-making strategies. It also provides a structure for youth-driven projects to explore the impact of climate change on different communities, and an opportunity to explore solutions to the current trajectory of a warming earth. Teaching strategies included highlighting current events and local impacts, engaging youth in hands-on activities, and adapting the trajectory of the semester-long course based on youth-led inquiry. Youth projects included creating devices made out of recycled materials to combat water scarcity in gardens; comparing the permeability of various materials— sand, soil, sod, pebbles, concrete, pavement, and "magic pavement" (pavement without the sand)— to see which materials would best infiltrate floodwater; and exploring how climate change is threatening two favorite foods: chocolate and hot pepper sauce.*

*"Almost everyone loves chocolate or chili sauce! I would ask [kids]- do they like foods that will be affected by climate change? Well, it's a problem then, because due to climate change the areas growing the food will be affected by things like rising sea levels!" (Quote from youth in the Climate Justice module this spring)*

This past year, CitySprouts piloted the **Youth Leadership Team (YLT)**, a club for our summer and after school program 'alumni' structured to allow more independent youth projects in the neighborhood. The team met once a month throughout the school year. At each meeting, youth worked on projects such as gardening together at a community garden in east Cambridge or creating educational material on climate change and food inequality. They presented their projects at CitySprouts' annual benefit in the spring, and at other events as opportunities arose (the Boston Flower Show in Spring 2018, for instance). YLT youth helped shape CitySprouts' programming by giving feedback and testing new activities. The YLT serves as a vehicle for youth leadership and voice in the community

and provides a critical school-year opportunity beyond the more formal after school modules. It is an important first step in realizing our capacity for youth leadership development beyond middle school.

After school participants=79

Summer program participants=78

YLT pilot=10

### **Our District Partners**

Our most strategic and critical MSP partners are with the schools and teachers that we collaborate with in both Cambridge and Boston. The elementary teachers our garden educators work with during the school day program play important roles in supporting our out-of-school time programming: by recommending students they feel would benefit from what CitySprouts offers, and serving as liaison with students' families, for example. Fifth grade teachers have also provided CitySprouts staff with rich professional development workshops as well, such as a 'science journaling' workshop a Cambridge 5<sup>th</sup> grade teacher led for our staff in Feb 2018. In Cambridge, we partner with all four public middle schools: Putnam Ave Upper School, Cambridge Street Upper School, Rindge Ave Upper School, and Vassal Lane Upper School. In Boston Public Schools, we partner with Orchard Gardens K-8 Pilot School and the McKay School.

The Agenda for Children/Middle School Network (MSN) in Cambridge has been an invaluable connection for CitySprouts. We have been a member of the MSN for many years and have built on the collaboration opportunities offered to work with other youth service programs in Cambridge. Since 2016, CitySprouts has assumed a leadership role within MSN by serving on the Steering Committee.

In Boston, CitySprouts has been an active member of the BoSTEM network for several years. This past year, CitySprouts' Middle School Program was selected to be part of the BoSTEM 5-year Education, Innovation & Research (EIR) project to improve young people's STEM learning and social-emotional health. Facilitated jointly by United Way and Boston After School & Beyond, the five-year BoSTEM EIR grant provides CitySprouts with a combination of funding and resources to improve young people's STEM skills and social emotional skills. This partnership has already brought us invaluable STEM training opportunities for our direct-service staff and support in implementing the Dimensions of Success (DoS) evaluation tool. CitySprouts is poised to use these resources more fully in the coming years.

### **Organizational Changes**

For 5 years, CitySprouts summer program has been led by our permanent Garden Educator staff and our after school has been taught by one-year service members (MA Commonwealth Corps, and FoodCorps). Beginning in fall 2018, we will be instituting a significant change in our MSP model as Garden Educators assume the role of lead teacher in all parts of our MSP, school year and summer. We anticipate this change will bring more effective implementation of our MSP curriculum (summer and school year) as MSP training and support is integrated in our year-long staff professional development. We expect it will result in stronger Garden Educator relationships with youth and their families who will now have the chance to get to know their summer program leaders during the school year. We anticipate this new model will also provide the foundation for a strategic family engagement initiative; we plan to utilize our future service members in our developing family engagement plan in 2019.

### **Evaluation**

CitySprouts utilizes validated evaluation tools to measure the quality of the learning environment of our Middle School Program. Dimensions of Success (DoS) is a holistic observation tool designed to improve the STEM assessment capacity of out-of-school time programming. The DoS tool pinpoints twelve indicators of STEM program quality in out-of-school time. It is part of a set of tools developed by Harvard University and McLean Hospital to guide programs in planning, assessing, and providing feedback on STEM quality. Development of the DoS tool was supported with funding from the National Science Foundation. Trained and certified observers make pre- and post-observations to measure empirically based indicators of student engagement in STEM learning and practices. DoS is widely used in STEM education programming for youth, notably by many of our peers in the BoSTEM initiative.

We also utilize The Assessment of Program Practices Tool (APT), a tool in A Program Assessment System (APAS) and is used by over 600 after school and youth programs in 33 states; the Common Instrument (CI) tool to measure changes in youths' STEM interest, and the SAYO-Y and SAYO-T to provide a youth and teacher's perspective to our program quality evaluation. Participation in CitySprouts Middle School Program is tracked through YouthServices.net, an online database used by after school programs statewide.

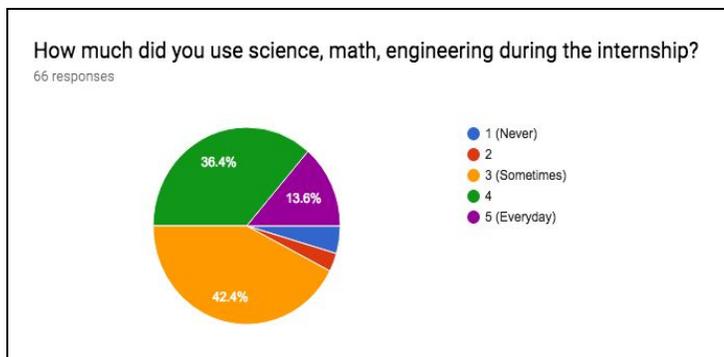
### Findings

*“Strength of the program includes a carefully crafted curriculum and knowledgeable staff.”*  
2018 APT outside evaluator

### STEM & Positive Youth Development

The Fall Afterschool 2017 evaluation scored above 3.5 in these three areas. For **Arrival Time** we scored 3.81 out of 4. When looking at the category; **staff promotes youth engagement and stimulate thinking** we scored 3.6. The next category that we did well in was **staff build relationships and support individual youth**, we scored 3.72. Other notable categories were **staff positively guide youth behavior** (3.6), **nature of activity** (3.58), **transition time** (3.54), and **program space supports goals of programming** (3.58).

The Summer Program 2018 scored 3.5 or above in these areas. For **transition time** we scored 3.5. The next category we did well in was the **nature of activity** which was also 3.5. Other notable scores include **organization of activity** (3.3) and **overall program schedule and offering** (3.4).



### **Health & Wellness**

CitySprouts defines youth health & well-being wholistically as physical and social-emotional health. Development of social-emotional skills in our youth participants is measured through evidence-based evaluation tools; food preference and healthy eating habits are tracked through CitySprouts' food preference survey.

From our summer program (n=55):

- 84% of participants tried a new vegetable for the first time (compared to 81% last year)
- 86% of participants reported that they liked a vegetable that they had not liked before the program (same as last year)
- 81% of participants cooked a new vegetable at home with their family (vs. 85% last year)

From our after school program (n=55):

