



Science • Technology • Engineering • (A)rt • Math



Since 2014, Community Guilds has focused on delivering an innovative, gap-closing approach to education through its mobile makerspace, STE(A)M Truck, targeting elementary and middle school students.

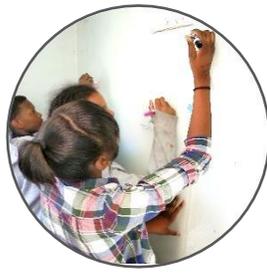
The STE(A)M Truck experience is anchored by a rigorous, experiential learning-based curriculum, which is brought to life in a mobile maker-space with the support and collective expertise of the local community. STE(A)M Truck creates a community of adult role models – “maker-mentors,” STEM designers, and local artists– and connects them closely with youth; together, they tackle real problems, design solutions, and build things.

What students and teachers are saying



“A lot of times adults, instead of teaching you how to use tools wisely and safely—they’re scared you’re going to hurt yourself so they don’t teach you at all. Something fun about STE(A)M truck is they let you it experience it yourself. So you really learn how to do something without help.”

-Kindezi 6th Grader



“The STE(A)M Truck allows kids who are hesitant or nervous about science and math to engage in a unique way. Kids who weren’t interested or invested the classroom were out here in love with what they were doing every day...it was hands-on, real-world, and they could own the decisions.”

-KIPP Science Teacher



“I learned a lot about how you need a team to get things done—we talk about teamwork all the time in school, but here I actually needed my teammates to help me to be successful—we all had to try our best to figure this out.. This will definitely help me work in the future, in school and in life.”

-KIPP 8th Grader



I liked how even though most of these tools are used by adults, we got a chance to actually use them and got to make cool objects and learn how things work. This will help me all my life because STEAM is everywhere. What I learned I can use anywhere.

-Kindezi 3rd Grader

Opportunity Gap

African-Americans, American Indians, and Latinos combined represent only 12 percent of all undergraduate degrees in technology and engineering, and research proves that those students who graduate without access to STEM skills and programming are less likely to have the problem-solving and critical thinking skills necessary to be successful in a range of career paths (both within and outside of STEM careers), the need for Community Guilds and STE(A)M Truck in Atlanta area schools is more critical than ever.



Community Guilds

Community Guilds is a Georgia non-profit committed to closing the opportunity gap in public education by providing transformational, hands-on apprenticeships and maker space experiences. Through high-interest, hands-on, collaborative work, Community Guilds engages youth to tackle real problems, design and build innovative solutions using real tools and modern technologies under the guidance of community experts and local artists. This experience provides authentic access to STEAM content while building the non-cognitive skills necessary for college and career success, ultimately allowing every student to thrive.

One example

At Kindezi , a public elementary school located in one of the worst “food deserts” in Atlanta , students across the three classrooms participated in a 20 day program to tackle the challenge: “**How can you make eating vegetables more fun?**” Each day, a small group of students began with a STEAM Trunk activity to get them thinking outside the box. Students then learned basic tool safety and usage while continuing to dig deeper into the problem. The STE(A)M Truck curricular cycle is organized into five main components, which are: **Spark**- whole school visits the Truck and tools, **Explore**- students learn how to use the tools and see community experts at work, **Design**- students collaborate to solve a problem using a design thinking approach, **Build**- construction of the solution, and **Share**-student-led exhibition for the whole school community. At Kindezi, students designed and built cedar wood bento boxes (so food wouldn’t touch), re-usable one of the kind cloth produce bags, and utensils re-engineered for a specific vegetable (okra inspired spiral spoon patent pending!). These students had access to “real-world” resources and tools, from laser cutters and 3-D printers to simple hammers and nails, and learned how to safely engage with them. They tackled a real problem and, with community experts, built something.



“One thing STE(A)M Truck taught me is how to improve in a process—do something over and over again to make it better and better each time you try. I would totally do this again because I need a new toolbox—my parents keep trying to steal mine!”

-Kindezi 6th Grader



Sparking Atlanta Students’ Interest

In order to kick off the Kindezi project (and all STE(A)M Truck programming), the truck opens its doors to the entire school, providing an opportunity for every student to explore the tools on the truck and artifacts from other schools’ projects. The STE(A)M Truck features more than \$100,000 worth of equipment ranging from power tools to a computer-operated laser engraver. Students are unlikely to have ever encountered many of the more high-tech tools, so the opportunity to test them out, learn how they work, and discuss how they might be used provides a means of sparking students’ interests in tools and trades of which they may never have even heard.

STE(A)M Truck Solutions

The research has been clear that access to hands-on building, tinkering, and the kinds of curriculum offered through STE(A)M Truck can increase access to STEM careers for students and build the skills critical for long-term success; however, the tools, expertise, and time needed to utilize these types of strategies are usually unavailable in public schools and especially so in public schools serving low-income communities. Community Guilds, and the STE(A)M Truck program specifically, leverage the research to meet the articulated need in Atlanta by providing access to materials, expertise, and curriculum that can reach every student in the city on their own campus. More, because the program provides capacity-building for teachers and a chance for schools to explore an innovation lab without building one, schools are able to explore the tools and curriculum that may work for their students and staff, and teachers receive professional development and access to an array of tools that would otherwise be cost prohibitive for most schools. Through the STE(A)M Truck, Community Guilds provides programming critical to building STEM readiness and interest for students in even the least resourced schools, while saving time, space, and money for the schools served.



Closing the Gap in Atlanta

Community Guilds’ programming has helped build students’ non-cognitive skills – and awareness of a breadth of life opportunities – they need to be successful:

Non-cognitive skills

- 97%+ of students improved non-cognitive skills
- 90%+ of students performed at satisfactory competency levels on non-cognitive skills
- Increased student interest and willingness to take risks and try new things in learning
- Improved classroom behavior (e.g., significant decline in discipline referrals)

STEM skills and awareness

- 87%+ of students have improved applied STEM skills
- As high as 90% of students perform at satisfactory competency levels on STEM skills
- 73%+ of students have increased interest and confidence in pursuing a STEM career.





Bringing STE(A)M Truck to Students Throughout the Metro Atlanta Area

In just its first full year of operation, over 300 students have completed a full 20 day program. We've partnered with several organizations, including Atlanta Public Schools, KIPP Metro Atlanta, The Kindezi Schools, Boys & Girls Clubs of Metro Atlanta, and Big Brother Big Sisters. With a proven curriculum, robust resources (including partnerships with artists and craftspersons), and fully-equipped trucks and trailers, STE(A)M Truck is positioned to close the opportunity gap throughout schools across the region.

Fee Structure For Schools Pull Out Model

The STE(A)M Truck fee structure provides:

- ▢ At least one full time STE(A)M team member *and* Artist in Resident
- ▢ Use of fully-equipped truck as a design lab with normal wear and tear
- ▢ Training and use of all equipment
- ▢ Set up, take down and clean up
- ▢ Procurement of all materials, supplies and consumables
- ▢ All curricula design, instruction and implementation
- ▢ All overhead, insurance, gas, and other misc. costs

Afterschool (\$10,000 total)

(20 students served, 120 minutes of programming per day)

- 20 visits with two 60-minute lessons (2 cohorts of ~10 students each lesson)
- Includes \$1000 for artist in resident stipend
- Includes \$1000 for consumables

½ Day In-School (\$12,500)

(20-30 students served, 4 hours of programming per day)

- 20 visits with two 120-minute modules or three 80-minute modules (2-3 cohorts of ~10 students each lesson)
- Includes \$2,000 for artist in resident stipend
- Includes \$2000 for consumables

Full-Day In-School (\$22,000)

(60 students served with up to 7 hours of programming per day)

- 20 full days of programming for up to six modules per day
- Includes \$3,500 for artist in resident stipend
- Includes \$3,000 for consumables



Curricular Assumptions:

- ~10 students/cohort
- 2-6 cohorts meet pervisit
- 60-120 minute lessons
- 20-lesson curriculum
- Curriculum can be implemented over semester or shorter period (as few as 4 weeks for daily programming)
- School-wide SPARK event kicks off each semester
- Community invited to final SHARE event



Community Guilds can tailor STE(A)M Truck programming to fit the needs of most any school. The packages outlined here are designed to provide a complete 20-day cycle that includes the full five phases of the curriculum. The size of the student group (~10 students per cohort) provides one-on-one, intensive engagement and full access to the tools and technologies each session. Each package assumes at least two cohorts of students each session, allowing for schools to utilize the STE(A)M Truck as part of their flexible grouping approach to differentiated instruction.