We believe

STEM is Everywhere.

You belong here.

We cultivate

impactful partnerships and
learning pathways that inspire
and prepare all youth for a STEM-enabled future.

We envision

a thriving, collaborative &
inclusive community powered by
a STEM-capable ecosystem.

Our Strategic Plan
In May, after a months-long process to better understand the needs of our community, we released a new strategic plan that will help us meet our new vision and mission.

2022
STUDENT ENGAGEMENT

Through the power of collaborations, we were able to offer 12 TRSA-led events within our college and career readiness, family engagement, and competition program areas, in addition to dozens of community events.

TRSA continued to focus on overcoming the exact boundaries that hindered access to STEM before the pandemic. TRSA is committed to designing inclusive strategies that reimagine access, cultivate achievement, and honor the lived experiences of those we serve. By developing new and innovative programs, TRSA provided STEM opportunities for a record-setting number of youth and educators in our community.

IDENTITY & BELONGING

Our programs emphasize belonging and identity because they are critical in students’ engagement, motivation, and achievement in STEM fields.

In the context of STEM education, belonging refers to the feeling of being accepted and valued within the STEM community. Students who feel like they belong in STEM are more likely to engage in STEM activities and pursue STEM careers. Studies have shown that a sense of belonging in STEM can improve academic performance, increase interest in STEM subjects, and reduce dropout rates.

Identity is how we see ourselves and the characteristics that define us. In the context of STEM education, identity refers to the ways in which students perceive themselves as STEM learners and the degree to which they identify with STEM fields. Developing a STEM identity involves recognizing one’s abilities and interests in STEM and the opportunities available in STEM fields. Research has shown that a strong STEM identity is positively correlated with academic achievement and persistence in STEM.

330 students who attended a STEM program reported a statistically significant positive change in believing they are a person who can do STEM and belong in STEM.

Total Students Surveyed=704
Youth STEM programs measured using the PEAR (Partnerships in Education and Resilience) tools and HOPE scale demonstrated growth in most areas measured. Some of the most noteworthy results include a statistically significant positive change in all 21st Century Skills and in attitudes toward STEM, including how students see themselves as a STEM person.

### STUDENT OUTCOMES

<table>
<thead>
<tr>
<th>Student Percent Positive Change After Program</th>
</tr>
</thead>
</table>

### PROGRAM SPOTLIGHT

**ME & MY MATH MENTOR**

This program creates pathways to opportunity for upper elementary students by helping them get to know STEM professionals and experience mathematics in a social and team-oriented context through the number-sense-reinforcing platform of gameplay. Surveys indicated that students who participated reported positive change from the start to end of the program in all four areas of 21st Century Skills.

- **Perseverance**
- **Critical Thinking Skills**
- **Relationships with Adults**
- **Relationships with Peers**

### STUDENT EXPERIENCES THROUGH OUR PROGRAMS

- **Events**
  - 13,221 youth engaged through family nights, competitions, and college and career readiness programs

- **STEM Hubs**
  - 907 youth experiences offered through our North and Central Tulsa STEM Hubs

- **Mentorship**
  - 219 youth experiences with caring adults working on STEM skills and social-emotional development

- **STEM in a Bag**
  - 15,333 student experiences through hands-on learning kits

resulting in **29,680 student experiences**
In July, TRSA completed renovations on our new office space at the Tandy Family YMCA and opened the Siegfried STEM Learning Lab. This nearly 1,500-square-foot space is equipped with state-of-the-art technology and serves as a model STEM lab and site for professional development and STEM learning. Designated as a convening space for ecosystem partners, the Siegfried STEM Learning Lab also operates as TRSA’s Central STEM Hub.

**PROFESSIONAL DEVELOPMENT**

We offered **35 unique professional development experiences** that provided strategies and solutions to empower teachers and support their success.

*599 educators from 89 different school districts and education partners* participated in more than *4,259 hours* of hands-on learning.

**SIEGFRIED STEM LEARNING LAB**

**PROGRAM SPOTLIGHT**

**EXPONENTIAL GROWTH MATH PROFESSIONAL DEVELOPMENT**

In partnership with Dr. Martha Parrot, Professor of Mathematics and Assistant Dean at Northeastern State University, K–8th grade educators participate in year-long cohorts focused on creating a community of thinkers, pedagogy, and resources for a growth mindset approach to mathematics.

"Today’s session was fabulous!... Being in-person was very powerful, and I’m excited to continue growing."

—Molly, K–2 teacher
STEM SHOPPE

The STEM Shoppe is a collection of resources, instructional equipment, and supplies available for loan to classrooms, community organizations, and family engagement events. There are dozens of items ranging from math manipulatives, to scientific models, and robotics.

33 schools and education organizations utilized 137 kits resulting in $200,645 in ecosystem-wide savings.

STEM SHOPPE

Oklahoma educators were recognized at our annual Flight Night gala for their outstanding contributions in support of STEM education and outreach:

Elementary & Overall Winner
Barbie Jackson, Sand Springs Public Schools

Middle School
Michelle Rahn, Claremore Public Schools

High School
Amy Moore, Tulsa Public Schools

Administrator
Andrea Sagely, Muskogee Public Schools

Winners each received a $2,500 individual prize to use for professional development, classroom materials, or other STEM initiatives. Jackson received an additional $2,500 as the overall STEM Innovator award winner.

GRANTS AWARDED TO SCHOOLS & PARTNER ORGANIZATIONS

Supplies & Materials

$119,573 awarded
63 recipients
Providing materials and equipment for high-quality STEM experiences

Professional Development

$133,949 awarded
25 recipients
Empowering educators and partners to provide or participate in PD

Out of School Time

$120,311 awarded
49 recipients
Supporting afterschool programs, summer camps, and family nights

resulting in 34,322 student experiences
LISTENING SESSIONS
As part of a national effort in partnership with Beyond 100K, TRSA conducted interviews with STEM educators, students, and STEM professionals to better understand their opinions, ideas, struggles, and successes to help identify underlying challenges they experience while cultivating belonging in their students — all with a focus on Black, Latinx, and Native American teachers and students.

MOMENTUM
In December, we launched our new digital badging and collective impact initiative called MOMENTUM.

In collaboration with The Opportunity Project, this network of STEM partners will allow us to leverage the collective will and wisdom of the community to ensure every child is exposed to meaningful out-of-school time experiences and has credentials to showcase the value of those experiences to the world.

35 organizations & individuals have committed to supporting this work
STEM HUBS
Launched in 2022, our STEM Hubs serve as communities of practice for learning, research, and innovation in STEM engagement. We strategically bring together students, educators, workforce partners, and other stakeholders to design and carry out initiatives that serve our most vulnerable populations of students.

<table>
<thead>
<tr>
<th>296</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIQUE STUDENTS</td>
<td>COMMUNITY PARTNERS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUT-OF-SCHOOL TIME EVENTS</td>
<td>DAYS OF STEM PROGRAMMING</td>
</tr>
</tbody>
</table>

PROGRAM SPOTLIGHT

STEM:MIND is an afterschool program at Tulsa’s Memorial Middle School that focuses on creating safe spaces for diverse learners in a state-of-the-art STEM demonstration lab. Student-inspired and student-designed, the lab allows for hands-on learning using various technologies. It is also home to a highly successful robotics program where students build drones, underwater robots, and quadcopters. STEM:MIND students pursue their own ideas, solve problems, and collaborate with their peers to design, develop, and play.

In 2021–2022, TRSA partnered with PEAR (Partnerships in Education and Resilience) to implement a study to determine how programs offered by TRSA partners affected participants’ STEM outcomes, including categories like STEM career knowledge, STEM career interest, STEM identity, and more. Of the seven partner programs included in the study, research indicated that STEM:MIND consistently showed a large, if not the largest, magnitude of positive change across all STEM outcomes. **Why might this be?**

STEM:MIND intentionally creates an inclusive space and nurtures a sense of belonging for all students, with a particular focus on engaging LGBTQ+ students. With an emphasis on making learning fun, the program creates a space for youth to find their niche in STEM, embodying the idea that “STEM is everyone.” Lead STEM:MIND educator, Abraham Kamara, says student participants “become very proud of what they do... [they believe], ‘I can contribute, I can help other kids … I matter in society.’”

This program illustrates that inclusivity and youth voice in STEM programs create a sense of belonging in STEM, increasing STEM engagement and confidence to combat real-world problems with STEM (Mitra, 2004; Mulvey et al., 2022).

COMMUNITY ENGAGEMENT

<table>
<thead>
<tr>
<th>367</th>
<th>1,086</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLUNTEERS</td>
<td>HOURS</td>
</tr>
</tbody>
</table>
# Financials

ACCOUNTABLE, TRANSPARENT COMMUNITY INVESTMENT IN STEM

## STATEMENT OF ACTIVITIES

<table>
<thead>
<tr>
<th>Revenue/Expense Category</th>
<th>2020</th>
<th>2021</th>
<th>2022*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>REVENUE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corp/Business Contributions</td>
<td>245,600</td>
<td>154,913</td>
<td>1,350,125</td>
</tr>
<tr>
<td>Individual Contributions</td>
<td>18,129</td>
<td>10,869</td>
<td>317,200</td>
</tr>
<tr>
<td>Grants</td>
<td>905,303</td>
<td>1,061,774</td>
<td>544,013</td>
</tr>
<tr>
<td>Other Revenue</td>
<td>89,220</td>
<td>524</td>
<td>12,594</td>
</tr>
<tr>
<td><strong>Total Revenue</strong></td>
<td>1,259,233</td>
<td>1,228,080</td>
<td>2,223,932</td>
</tr>
<tr>
<td><strong>Program Expenses</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College and Career Readiness</td>
<td>163,178</td>
<td>150,722</td>
<td>110,874</td>
</tr>
<tr>
<td>Competitions</td>
<td>55,670</td>
<td>68,193</td>
<td>48,653</td>
</tr>
<tr>
<td>Out of School Time</td>
<td>166,221</td>
<td>150,123</td>
<td>97,416</td>
</tr>
<tr>
<td>Curriculum &amp; Resources</td>
<td>87,103</td>
<td>99,102</td>
<td>69,691</td>
</tr>
<tr>
<td>Professional Development</td>
<td>262,107</td>
<td>209,113</td>
<td>415,889</td>
</tr>
<tr>
<td>Family &amp; Community</td>
<td>45,854</td>
<td>33,809</td>
<td>37,475</td>
</tr>
<tr>
<td>STEM Ecosystem</td>
<td>42,697</td>
<td>148,081</td>
<td>178,890</td>
</tr>
<tr>
<td>General Program</td>
<td>-</td>
<td>-</td>
<td>39,196</td>
</tr>
<tr>
<td><strong>Total Program Expenses</strong></td>
<td>823,430</td>
<td>859,022</td>
<td>1,105,022</td>
</tr>
<tr>
<td><strong>Supporting Services</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management &amp; General</td>
<td>235,156</td>
<td>256,195</td>
<td>537,797</td>
</tr>
<tr>
<td>Fund Development</td>
<td>66,681</td>
<td>75,999</td>
<td>400,698</td>
</tr>
<tr>
<td><strong>Total Supporting Services</strong></td>
<td>301,837</td>
<td>332,194</td>
<td>938,495</td>
</tr>
</tbody>
</table>

## Financial Position

<table>
<thead>
<tr>
<th>Year</th>
<th>ASSETS</th>
<th>Liabilities &amp; Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>820,117</td>
<td>820,117</td>
</tr>
<tr>
<td>2021</td>
<td>875,750</td>
<td>875,750</td>
</tr>
<tr>
<td>2022*</td>
<td>1,310,514</td>
<td>1,310,514</td>
</tr>
</tbody>
</table>

### Assets

- Accounts Receivables / Prepaid: 2020 - 185,717, 2021 - 95,749
- Other Current Assets: 2020 - 18,659, 2021 - 30,091
- Fixed Assets: 2020 - 8,555, 2021 - 21,890

### Liabilities & Equity

- Credit Cards: 2020 - 557, 2021 - 11,531
- Other Liabilities: 2020 - 36,144, 2021 - 44,060
- Equity - Restricted: 2020 - 478,707, 2021 - 549,829
- Equity - Unrestricted: 2020 - 304,709, 2021 - 270,329

*Not yet audited*
Funders
CULTIVATING & CELEBRATING OUR VIBRANT FUNDING COMMUNITY

Platinum Level

FLIGHT NIGHT

Charles and Lynn Schusterman Family Philanthropies
OERB
TCC
Live United
Tulsa Area United Way
George Kaiser Family Foundation

Gold Level
Williams
The Opportunity Project
YMCA

Silver Level
AAON
H.A. & Mary K. Chapman Charitable Trust
Kinder Morgan Foundation
City of Tulsa

Bronze Level
Mark & Lisa Dalton
T.D. Williamson
ONE Gas
While 2022 wasn’t without its challenges, we made real progress preparing and inspiring Oklahoma youth for a STEM-enabled future. These accomplishments would not have been possible without the dedicated support of our staff, educators, volunteers, and partners.

Moving forward, we recognize there is still much work to be done if we are going to build a more diverse and inclusive STEM workforce. We remain committed to our mission and will continue to explore new opportunities to make an even greater impact in the future. We are grateful for the trust and generosity of our community, and we look forward to working together to create a brighter future for all.

To find out more about our impact and initiatives, visit 

TulsaSTEM.org

thank you

121,644
STUDENT EXPERIENCES

78
SCHOOL DISTRICTS

114
COLLABORATORS