STEM Strategic Plan

2021-2023

girl scouts
of eastern oklahoma

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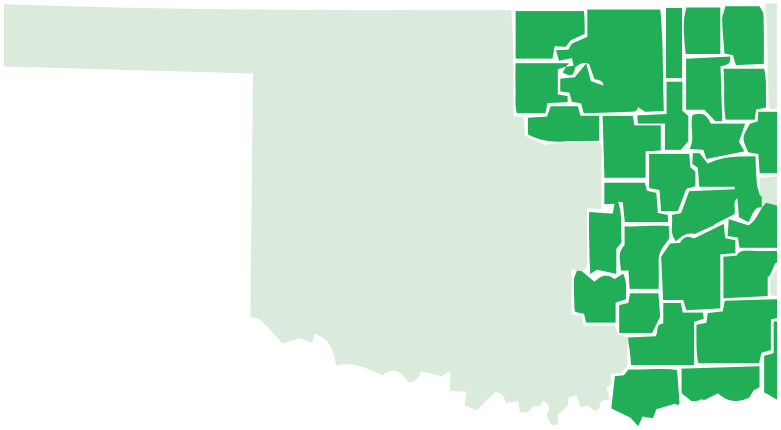
About Girl Scouts of Eastern Oklahoma

Girl Scouts of the USA was founded in 1912 by Juliette "Daisy" Gordon Low in Savannah, Georgia. The Girl Scout organization quickly spread to Oklahoma, with the first troops beginning in Bartlesville in 1914. Over the years councils changed and merged. We eventually became Girl Scouts of Eastern Oklahoma in 2008, covering 30 counties and serving over 3,500 girls and 1,400 adult volunteers in our 2020-2021 membership year.

Girl Scouting builds girls of courage, confidence, and character, who make the world a better place The Girl Scout Leadership Experience is a collection of engaging, challenging, and fun activities that help Girl Scouts prepare for a lifetime of leadership, success, and adventure. Everything a Girl Scout does centers around four program pillars: STEM, outdoor adventure, life skills, and entrepreneurship. The program grows as Girl Scouts age, ensuring they build upon their knowledge and advance in their pursued interests.



Girls in grades K-12 participate in troops and groups across 30 counties through Girl Scouts of Eastern Oklahoma. Over 100 local Girl Scout councils offer girls the opportunity for membership across the United States and abroad.

The Girl Scout Promise
On my honor, I will try:
To serve God and my country,
To help people at all times,
And to live by the Girl Scout Law.

The Girl Scout Law
I will do my best to be
honest and fair,
friendly and helpful,
considerate and caring, courageous and strong, and responsible for what I say and do, *and to*
respect myself and others,
respect authority,
use resources wisely,
make the world a better place, and be a sister to every Girl Scout.

Girl Scouting builds girls of courage, confidence, and character, who make the world a better place.

Executive Summary

Science, technology, engineering, and mathematics (STEM) attainment is critical if students, communities, and institutions in eastern Oklahoma are to thrive. It is estimated that 65% of children entering primary school will have jobs that don't yet exist. In such a rapidly evolving world, the ability to anticipate and prepare our youth with the necessary 21st-century skills and abilities is vital to their success. Additionally, STEM occupations grow faster than most other professions, command higher wages, and are required in non-STEM fields. In order to prepare our students to take advantage of the vast opportunities in these fields, we must equip them with the knowledge and skills to successfully embark upon a STEM pathway and ultimately a high-demand STEM-related career. Too many STEM jobs are being left unfilled, meaning our graduates are missing valuable opportunities to join one of the fastest-growing industries in the nation. STEM education stands as a key strategy to address these gaps, provide additional opportunities to Oklahoma students, and strengthen Oklahoma's economic future.

Oklahoma students receive math and science instruction as a part of their core school curriculum, but there isn't consistency amongst educational standards for STEM. This lack of comprehensive STEM education resulted in only 11% of all Oklahoma ACT-tested high school graduates meeting College Readiness Benchmarks for STEM, and only 23% of eighth-grade students scoring at or above the proficient level on the Oklahoma 8th grade math test in 2019. These statistics are worse for students of color and those in rural or underserved areas.

In response to this urgent need, Girl Scouts of Eastern Oklahoma has created a STEM strategic plan so that we can continue to support girls and prepare them for successful futures. We are the only institution with the infrastructure, scale, and experience to ignite girls' interest in STEM and keep them engaged from kindergarten through high school and beyond. Our rigorous and tested STEM program, including 100+ STEM badges, gives girls countless ways to explore their interests and gain confidence in STEM subjects.

Our aim is to prepare every Girl Scout to be STEM-confident, through fun, innovative programs, challenging and relevant curricula, and by providing support for an enriching experience. We recognize that materials, content knowledge, and time are major barriers to implementing high-quality STEM education. By investing in resources for troop leaders, cultivating community support and awareness, and measuring the outcomes of our work, we hope to inspire and empower girls to excel in STEM fields of study and succeed in 21st-century careers and leaders and trailblazers.

With your help implementing the following strategies, we will transform the STEM workforce pipeline by galvanizing girls from kindergarten through high school to explore STEM and help them become confident and resourceful leaders.

Mission Statement

To prepare every Girl Scout to be STEM-confident through fun, innovative programs, challenging and relevant curricula, and by providing support for an enriching troop experience.

Vision Statement

All Girl Scouts are inspired and empowered to excel in STEM fields of study and succeed in 21st-century careers as leaders and trailblazers.

> "The most damaging phrase in the language is, 'It's always been done that way.'"
>
> **Grace Hopper. mathematician and rear admiral in the U.S. Navy who was a pioneer in developing computer technology**

Introduction

Why STEM?

The United States is facing a science, technology, engineering, and math workforce crisis. Within the next decade, the career pipeline will require more than 3.5 million STEM-based professionals; however, nearly 2 million of those positions might be vacant because workforce candidates will not possess the necessary STEM skills. 1 Current estimates indicate that Oklahoma alone will need to fill more than 92,000 STEM jobs by 2026.[2]

In communities across the United States, jobs in STEM industries are among the highest paying and fastest-growing careers for young people. According to the U.S. Bureau of Labor Statistics, 93 of the 100 top STEM occupations had above-average wages, and from 2009-2015, employment in STEM occupations grew by 10.5 percent, twice the growth percentage of non-STEM occupations.[3] These trends are mirrored in local labor data as well. According to the Oklahoma Employment Security Commission, the overall annual mean wage for STEM occupations in Oklahoma was $72,400, while Oklahoma's average annual wages for all occupations was $43,340.[2]

STEM careers are also shown to narrow the gender pay gap. Over half a century after pay discrimination became illegal in the United States, a persistent pay gap between men and women continues. However, the gender wage gap is smaller in STEM jobs than in non-STEM jobs. For every dollar earned by a man in STEM, a woman earns 14 cents less. This is smaller than the 21 percent gender wage gap in non-STEM occupations but is still a clear disparity.[4]

Oklahoma's largest industry sectors are STEM industries at their core - energy, aerospace and defense, information systems, manufacturing, agriculture, etc. These highly profitable industries require an educated and well-trained STEM workforce. In their report, The Hidden STEM Economy, The Brookings Institution noted that more STEM-oriented metropolitan economies perform strongly on a wide variety of economic indicators, from innovation to employment. Job growth, employment rates, patenting, wages, and exports are all higher in more STEM-based economies.[5] Regions that cultivate a pipeline of diverse, talented STEM employees are more successful in attracting new business and creating jobs.

STEM is vital for economic prosperity and leads directly to improvement in the wellbeing and way of life for all citizens of Oklahoma.

What is STEM?

STEM is an educational approach based on the idea of teaching students four specific disciplines — science, technology, engineering, and mathematics — in an interdisciplinary and applied approach. Rather than teach the four disciplines as separate and discrete subjects, STEM blends those subjects to teach "21st-century skills," or tools students need to have if they wish to succeed in the workplace of the future.

In order to be prepared for the jobs of the future, students need to be able to think critically, collaborate on projects, find and use evidence, and solve problems. These are the kinds of skills that students develop through STEM learning.

If we want a world where our youth excel, we need to equip them with the ability to understand and solve some of the complex challenges of today and tomorrow, and to meet the demands of the dynamic and evolving workforce, through skill-building, content knowledge, and fluency in STEM.

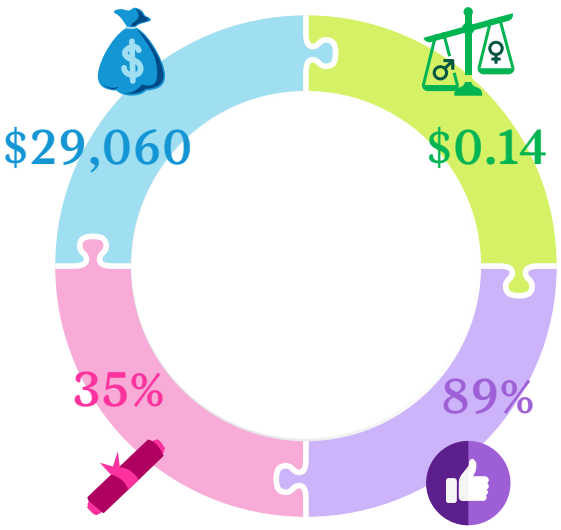
Women in STEM

Despite this ongoing demand for graduates who are prepared for careers in STEM fields, data shows that a significant gender gap persists in STEM fields. According to the Girl Scout Research Institute's 2012 Generation STEM report, while female students account for nearly 60% of college graduates, they represent only 35% of college graduates earning STEM degrees.6 In fields such as engineering, less than 20% of college graduates are female. Black, Indigenous, and girls of color have less exposure to STEM careers, less adult support for pursuing STEM fields, and greater awareness of gender barriers in STEM professions than their Caucasian peers.[6] These disparities continue into the workforce, where women are vastly underrepresented in STEM careers, despite making up about half of the workforce. Possible contributing factors include a lack of female role models and gender stereotyping for girls who enroll in advanced math and science courses.4

Girls are natural-born scientists and engineers. They look at the world with inquisitive eyes, experiment, and push boundaries, and they learn as they go. But as early as second grade, youth begin demonstrating the outdated mantra that "math is for boys, not girls." By third grade, girls form their science, technology, engineering, and math identities, and by high school, 89% of girls have declared they are disinterested in STEM.[6]

For more than a century, Girl Scouts has been preparing girls for a lifetime of leadership. We believe we have a responsibility to meet the evolving educational needs of the 21st-century girl. Today and always, we are committed to ensuring that all girls develop to their full potential and have equal access to and support in STEM education.

The STEM Gap Recap



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The State of STEM

Oklahoma is home to a wide variety of STEM-related businesses and industries, including energy, agriculture, information technology, logistics, manufacturing, and aerospace. While the state boasts a diversified economy, our dependence on an educated and trained STEM workforce continues to grow. It is estimated that Oklahoma will need to fill more than 92,000 STEM jobs by 2026.[2]

The City of Tulsa serves as the principal municipality of the greater Tulsa metropolitan area, and acts as an influential base for various local industries in the eastern half of the state, including but not limited to AAON, American Airlines, Helmerich & Payne, NORDAM, Cimarex Energy, ONE Gas, ONEOK, Cox Media Group, QuikTrip, and Williams.

In 2019, only 23.9% of juniors who took the College- and Career-Readiness Assessment (CCRA) were proficient or advanced in areas of math and science.[12] 11% of all Oklahoma ACT-tested high school graduates met ACT College Readiness Benchmarks for STEM.[10] Additionally, only 23% of eighth-graders met the Oklahoma School Testing Program (OSTP) proficiency standards for math.[13]

The truth is that no one organization can ensure all students have the access and resources needed to thrive in STEM education. The good news is that many local organizations, along with a generous philanthropic community, are actively collaborating with K-12 education, post-secondary educational institutions, state and tribal governments, and nonprofits to advance STEM education and grow Oklahoma's STEM workforce.

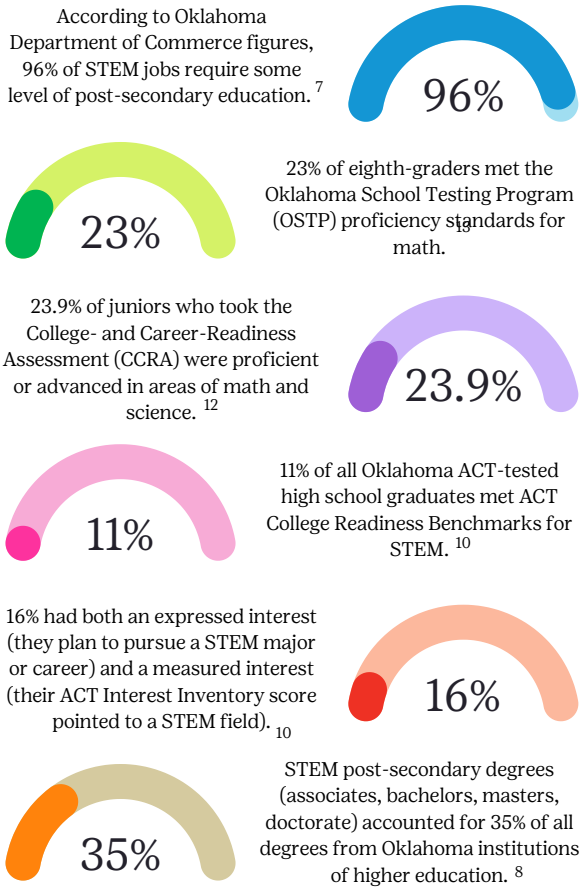
There are two STEM ecosystems and leading STEM organizations in Eastern Oklahoma. The Tulsa Regional STEM Alliance works with community partners by providing financial and resource support and co-organizing events to create and sustain local STEM education programs for educators and youth in northeast Oklahoma. The Mid America STEM Alliance similarly serves seventeen public school districts throughout Mayes County and is coordinated by MidAmerica Industrial Park's workforce development program, MidAmerica Delivers.

Numerous youth-serving organizations across Oklahoma provide opportunities for K-12 students to participate in STEM activities. The Discovery Lab and Fab Lab Tulsa are two STEM-rich institutions that are opening brand new public facilities in 2021-2022. Eastern Oklahoma is fortunate to have numerous informal education organizations and affinity groups/associations actively collaborating to support and initiate innovative education pathways for students, empowering them to pursue high-impact STEM careers. This includes but is not limited to AIA Eastern Oklahoma, Global Gardens, The M.e.t., Oklahoma Aquarium, Society of Women Engineers, STARBASE Oklahoma, Tulsa Engineering Foundation, Tulsa Zoo, Up with Trees, and YMCA of Greater Tulsa.

According to Oklahoma Department of Commerce figures, 96% of STEM jobs require some level of post-secondary education. Oklahoma is rich with higher education opportunities, including 66 colleges and universities and over 30 vocational schools.[7] Our STEM degree completion continues to grow, with an increase of more than 54% over the last nine years. Data from the Oklahoma State Regents for Higher Education (OSRHE) for 2018-2019, STEM post-secondary degrees (associates, bachelors, masters, doctorate) accounted for 35% of all degrees from Oklahoma institutions of higher education.[8] As promising as these degree numbers are, it is estimated that up to 30% of graduates leave the state after graduation and as many as 74% of those with bachelor's degrees in a STEM topic opt for non-STEM careers.[9]

In a time when we need more student's graduating with STEM certificates and degrees, the ACT is reporting a decrease in student interest and aptitude. Of the students surveyed, 19,794 or 47%, had an interest in STEM, but only 6,620 (16%) had both an expressed interest (they plan to pursue a STEM major or career) and a measured interest (their ACT Interest Inventory score pointed to a STEM field).[10] Students demonstrating only one type of STEM interest, either expressed or measured, fall far short in terms of benchmark attainment and preparedness for STEM majors and careers when compared to peers who have both.

Additionally, an analysis of a series of STEM education indicators finds that Oklahoma students generally rank in the bottom half of states in terms of their proficiency in STEM. In Oklahoma schools, STEM education includes the individual disciplines of mathematics, computer science, and science as well as the purposeful integration of math and science with technology and engineering. Schools focus on building foundational knowledge in these core subjects while "also engaging in both STEM appreciation and STEM integration experiences." [11]



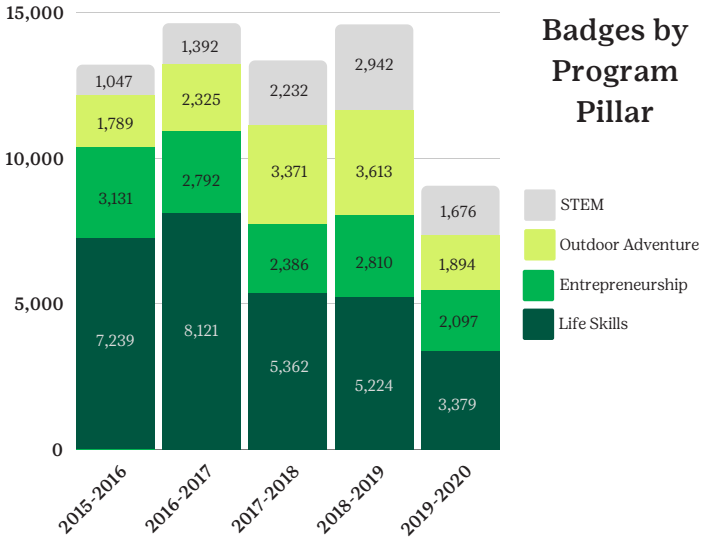
STEM at Girl Scouts

Girl Scouts of USA adopted the STEM program pillar into our GSLE curriculum in 2017, but Girl Scouts have been honing their STEM-related skills since the beginning. Founded in 1912 by Juliette Gordon Low, the organization's first STEM-related badge was an electrician's badge introduced in 1916, embracing the cutting-edge technology of the time. Now, there are over 100 STEM badges to earn.

Harnessing the power of our community, Girl Scouts of Eastern Oklahoma offers many ways for girls to engage in STEM. Girls can earn badges through our nationally developed curriculum, participate in organization-wide STEM programs and events, and learn about career pathways through residential camps and travel experiences.

Our Girl Scout STEM badges and journeys are correlated by grade level to local and national standards, including Oklahoma Academic Standards, 21st Century Skills, and Personal Financial Education Standards. Our integrated lessons help girls build valuable technology skills while exploring scientific topics they love like gaming and social media. Girls are able to solve problems as they use methods from fields like computer science, engineering, and cybersecurity. While exploring the natural world, girls gain proficiency in math and science concepts and make valuable connections to the world.

Participation in our STEM initiatives has grown over the last several years. More girls and troops are earning STEM badges, showcased by an average of 42% growth in badge sales from 2017-2020. But even at the height of STEM badge sales in 2019, weighed against membership numbers, only 44% of girls earned just one STEM badge, compared to life skills (78%), entrepreneurship (42%), and outdoor skills (54%). Before the COVID-19 pandemic, GSEOK was expanding STEM programming options due to high demand but managed to sustain participation throughout the global crisis. Many troop leaders report opting to bring their troop to a council-sponsored STEM badge program rather than earning them in their regular troop meetings. In 2018-2019, nearly 1,200 girls from across Eastern Oklahoma participated in 21 STEM programs. In 2019-2020, GSEOK hosted 19 STEM programs including virtual activities with just over 1,000 girls participating. To thrive in the 21st-century, girls need to have early and sustained access to active learning and high-quality STEM experiences.



In 2021, the STEM Advisory Committee conducted a council-wide survey to assess ways to advance STEM learning through the Girl Scout Leadership Experience. The survey was sent to Troop Leaders and parents/caregivers of active Girl Scouts for participants to share their STEM experiences as a parent, girl, or Troop Leader in Girl Scouts. In combination with our 2019 post-program STEM outcome survey results, the key findings were:

- The biggest challenges Troop Leaders face when engaging their troop in STEM are: (1) Knowledge/unfamiliar with the topics (34%), (2) Necessary supplies or materials (30%), (3) assistance/parental or volunteer support (22%)

- When asked what resources the Troop Leaders would make use of if available, the most popular choices were: (1) Readymade STEM supply kits (78%), (2) STEM professional volunteers or mentors (66%), (3) STEM Mobile Unit (66%).

- When parents/caregivers were asked what resources they would make the most use of, they similarly chose: (1) Readymade STEM supply kits (95.2%), (2) STEM Mobile Unit (76.2%), (3) STEM professional volunteers or mentors (73.8%).

- 52% of parents/caregivers indicated that they chose to sign their girl up for Girl Scouts for STEM Experiences/Learning, with the most popular choices being Outdoor Adventures (90.5%), Life Skills (85.7%), Socialization (83.3%).

- A 5-point Likert scale asks girls to specify their levels of agreement with a statement, from high to low with one neutral option in the middle. The results indicate that Girl Scouts are interested (3.76) and understand the value (3.71) STEM brings to the world. Outcome survey results indicate that girls lack confidence (3.45) in their STEM abilities and many lack a foundation of key STEM knowledge, skills, and abilities - or competence (3.33).

- Girls, when asked what their biggest challenges or obstacles are when participating in STEM with Girl Scouts, selected: (1) Don't have the time (26.7%), (2) STEM is hard (20%), (3) None of my friends like STEM (20%). In conjunction with the outcome results, these responses indicate that girls lack a STEM identity and don't see themselves as a person who utilizes and contributes to STEM.

As the strategic planning committee worked through the various stages of developing goals, objectives, initiatives, and action steps, we utilized the feedback provided by our membership to help us understand our strategic position. To effectively prepare every Girl Scout to be STEM-confident, we'll need to utilize our dedicated and passionate volunteer pool, nationally developed STEM curriculum, and forge critical collaborations within our vibrant STEM community. While many girls have had the opportunity to build their interest and value in STEM, we have work to do to ensure that our programs are robust enough to improve their confidence and competence. The committee is dedicated to creating high-quality STEM programs that are aligned to in-demand industry skills, alongside STEM professional coaches and mentors.

Goals and Strategies

To ensure eastern Oklahoma girls become inspired and empowered leaders who can solve the challenges of tomorrow, Girl Scouts of Eastern Oklahoma will provide leadership and support to allow for effective STEM learning environments that prepare girls to make informed decisions on STEM issues and careers.

The Girl Scouts of Eastern Oklahoma STEM Advisory Committee has set four goals to guide the council's work moving forward. Each of these goals has been developed with the belief that by supporting the systems which surround girls, including parents, peers, educators, schools, and communities, we will be able to significantly increase girl engagement in STEM learning.

Goal 1

Ensure troop leaders and volunteers are equipped with the necessary training and resources to effectively lead STEM learning experiences

Strategies to accomplish goal:

- Develop trainings and tutorials for Troop Leaders
- Create ed-tech or material kits for a Troop Leader STEM Resource Library
- Create a system for engaging, linking, and tracking volunteers who are guest content experts

Goal 2

Harness community resources to create an integrated, multi-year series of activities, opportunities, and experiences that deepen girls' exposure to, interest in, and preparation for STEM careers.

Strategies to accomplish goal:

- Develop new and varied experiences for program changeover through community partnerships
- Incorporate mentorship experiences - peer-to-peer, near-peer, and STEM professional-to-girl
- Develop program idea procedure or flow chart for volunteers or partners to bring new ideas to GSEOK
- Documentation of key program details for succession planning
- Create more opportunities for family engagement in STEM

Goal 3

Increase Girl Scouts' capacity to deliver high-quality STEM experiences and remove barriers for girls to participate through diversified funding and initiatives.

Strategies to accomplish goal:

- Create partnerships with other organizations for resource sharing to address council gaps and alignment with in-demand skills or careers
- Develop a list of programming priorities and begin seeking out funding
- Underwrite or reduce the cost of STEM badges or program materials
- Conduct a feasibility study for a STEM Center of Excellence, STEM Experience Center, or STEM lab

Goal 4

Help tell the Girl Scout STEM story by collecting and sharing success stories, measuring program outcomes, and documenting girls' experiences through photos, videos, and written content.

Strategies to accomplish goal:

- Develop a data collection strategy and policy for program metrics
- Conduct an annual STEM Survey of members
- Investigate ways to collect troop-level participation
- Develop incentives for participating in STEM initiatives

Implementation Plan

GSEOK will work with partners including K-12, higher education, industry leaders, non-profit organizations, philanthropic organizations, and government agencies to identify resources and implement programming to meet the needs of community stakeholders.

At a minimum, progress towards goals and milestones will be analyzed annually with the following checkpoints:

GOAL 1
Develop trainings and resources for volunteers

Develop trainings and resources, so that 35% of our troop leaders engage in at least one STEM training by the end of membership year 2022.

Possible initiatives may include:

Trainings

- Develop an online leader trainings to make them accessible to all leaders
- Utilize community partners and fellow Troop Leaders to fill in gaps
- Incentivize Troop Leaders to participate through discounted badges, materials, or supplies
- Trainings to include tips for teaching STEM, growth mindset, and look for cross-connections with other pillars

STEM Kits

- Create resource kits for the easiest and most broadly reaching badges
- Look for community funders and resources to create new kits
- Develop a database that captures volunteer information and interests
- Communicate volunteer availability to Troop Leaders

TIMELINE

Immediately and ongoing - Look for existing volunteer training opportunities to incorporate STEM

Phase 1 - Inventory and publish current STEM kit offerings

Phase 2 - Develop a list of most needed kits and begin looking for funding opportunities; Survey troop leaders on trainings

Phase 3 - Launch first online STEM tutorials on growth mindset, STEM facilitation tips, and starting with STEM

Phase 4 - Develop and maintain a list of STEM volunteers, episodic and content experts

Phase 5 - Grow our online training catalog with videos introducing badge concepts and activitiy guides

Key Performance Metrics

- Number of troop leaders participating in STEM trainings
- Percentage of troop leaders who report an increase in their confidence leading STEM badges or activities
- Kit utilization and subsequent badge sales
- Number of STEM content volunteers engaging with GSEOK

GOAL 2
Deliver high-quality STEM programming

Collect 500 retrospective outcome surveys meeting the following benchmarks:

- Mean of 3 or greater for all outcomes
- Less than 25% of respondents are categorized as low on any post-event outcomes
- Aggregate positive change between post and retrospective portions of surveys

Possible initiatives may include:

- Develop a catalog of badging curriculum and make specific asks of key community partners to facilitate STEM programs
- Collect outcomes from all appropriate program opportunities for a robust evaluation of program effectiveness
- Blending of STEM with other programs and pillars (travel, awards, outdoors, etc)
- Create an online form for program proposal submissions and process for review and/or implementation
- Harness older girl affinity groups like robotics or astronomy to mentor younger girls through programming and higher awards
- Plan 1-2 events that allow girls to showcase their learning and skill-building & engages the whole family in STEM

TIMELINE

Phase 1 - Develop a list of key event details to be recorded for program documentation

Phase 2 - Develop program proposal guidelines and the submission form

Phase 3- Cultivate new STEM programming through community partner collaborations

Phase 4- Explore STEM programming or initiatives surrounding near-peer mentorship

Phase 5 - Incorporate family engagement programs

Key Performance Metrics

- Registration for council-sponsored STEM programs
- Number of events successfully executed
- Measurement of STEM program quality through retrospective outcomes survey

GOAL 3
Improve equitable access

15% increase of girls participating in STEM through badges sales, program attendance, and council resources in Year 1.

Possible initiatives may include:

- Create partnerships with other educational organizations for resource sharing to address council gaps
- Conduct feasibility study for a STEM Center of Excellence, STEM Experience Center or STEM lab
- Underwrite or reduce the cost of STEM badges
- Develop a list of programming priorities and begin seeking out funding, including equipment and personnel

TIMELINE

Phase 1- Develop a list of programming priorities and begin seeking out funding

Phase 2 - Investigate badge curriculum and troop sharing options

Phase 3 - Identify and begin approaching potential program partners

Phase 4 - Conduct feasibility study on STEM space

Key Performance Metrics

- Increase in the funding of STEM initiatives, through grant writing and fundraising
- Increase in girl engagement with STEM, measured through badge sales, program registration, higher awards
- Increasing participation of traditionally underrepresented or marginalized groups

GOAL 4
Increase evaluation and reporting of STEM initiatives

Within the first 18 months, develop and implement a data collection strategy and policy.

Possible initiatives may include:

- Review current outcome surveys and develop a strategy for comprehensive data collection
- Look for opportunities to share STEM resources, newsletters, social media takeovers
- Communicate the why of STEM to families
- A comprehensive and equitable report out to the community and members
- Update STEM content on GSEOK's website

TIMELINE

Phase 1 - Develop policies and procedures for outcome surveys

Phase 2 - Roll out outcome measurement tools

Phase 3 - Review and develop incentives for participation in data collection

Phase 4 - Conduct annual STEM Experience survey of members

Phase 5 - Develop and share report; refine strategy based on feedback

Key Performance Metrics

- Number of parents and volunteers that report increased awareness of STEM resources and opportunities through Girl Scouts
- Increased traffic to STEM resources on all internal and external platforms

Outcome Tools & Measurement

Girl Scouts of Eastern Oklahoma utilizes three outcome measurement tools for gauging the success of STEM initiatives:

1. Girl Scout Research Institute STEM Outcomes Surveys

The STEM Outcomes survey is a rigorously developed instrument for GSUSA and Girl Scout councils to evaluate the impact of Girl Scout STEM programs on girls' progress towards four STEM outcomes. These outcomes reflect attitudes, skills, and behaviors that are: 1) reinforced through Girl Scout STEM program activities; 2) consistent with the priorities of the larger youth STEM out-of-school time education community; and 3) important to long-term STEM outcomes. Research has shown that positive STEM attitudes and confidence in STEM abilities are precursors to ongoing engagement in STEM activities, classes or professions, and support the development of the STEM-literate populace.

STEM Interest

Girls are excited about STEM subjects and want to learn more about them.

The STEM Interest measure assesses girls' positive affect and curiosity towards STEM. A girl who is interested in STEM is fascinated by STEM subjects, enjoys participating in STEM activities, and wants to engage, know, and learn more about STEM. She also strives to understand how things work. In the long term, youth who develop a strong interest in STEM are better students and more academically engaged, are more confident in their STEM abilities, and more likely to take STEM courses and pursue careers in STEM.

STEM Value

Girls understand the importance and relevance of STEM to people and society.

The STEM Value measure assesses a girl's understanding of the role STEM plays in her everyday life (e.g., fixing something in her home) and making the world a better place (e.g., improving water quality). A girl who places a high value on STEM believes that STEM knowledge and pursuits are (1) important and relevant to real life and (2) can be used to address societal problems. The more girls understand how critical STEM knowledge is to solving community problems, the more likely they will be to pursue educational opportunities and careers in these fields. Indeed, research shows that girls who value STEM see STEM careers as a way to help people make a difference in the world.

STEM Confidence

Girls have confidence in their STEM skills and abilities.

The STEM Confidence measure assesses a girl's feelings of self-efficacy in relation to STEM. A girl who is confident in her STEM abilities believes she can do most STEM activities well and successfully. Confidence is important because it heavily influences how people approach goals, tasks, and challenges - like trying out innovative ideas, saying "yes" to opportunities, setting the bar high, and stretching one's limits to learn and grow. As with STEM interest, people who are confident in their STEM abilities have higher academic goals and aspirations, are more likely to pursue STEM courses and careers.

STEM Competence

Girls think scientifically to solve problems.

The STEM Competence measure assesses a girl's ability to think scientifically when working to solve a problem. A girl who is competent in STEM uses scientific thinking to understand the root causes of problems, identifies different easy-to-solve problems, thinks critically about information, and comes up with new solutions when encountering obstacles. Girls who think scientifically about the world around them are better positioned to engage in STEM activities and careers and tackle individual and societal problems.

2. Utilization of The PEAR Institutes Dimensions of Success planning tool for high-quality program facilitation

Partnerships in Education and Resilience (PEAR) has contributed to the social-emotional and STEM education fields for the past 20 years. Dimensions of Success (DoS) is an overarching framework that defines key aspects of a quality STEM learning experience. DoS forms the backbone of a suite of tools and guides designed to help out-of-school-time (OST) programs (e.g., afterschool programs, summer camps, etc.) improve the quality of their STEM offerings.

3. Annual assessment of membership engagement through the STEM Experience Survey developed by the STEM Advisory Committee.

Girl Scouts of Eastern Oklahoma will measure success by monitoring the following outcomes on an annual basis:

1. Increased participation in council-sponsored STEM programming. In particular, ensuring equitable access for marginalized populations including Black, Latinx, and rural students.
2. STEM badge sales, as a measurement of troop-level participation and skill-building
3. Program evaluation analysis
4. The number of Troop Leaders that have taken Girl Scout STEM training

Acknowledgments

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Suzanne Dodson, Magellan Midstream Partners

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"Girl Scouts is also where I realized that I was not only interested in science and math - *I was good at them.*"

Sylvia Acevedo
Former CEO Girl Scouts of the USA and NASA Engineer

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