

# ACCESS TO STEM: A FRAMEWORK



CREATING SPACE FOR ALL LEARNERS

**Strategies** are the broad categories within each large concept: **Increasing Access, Youth-Centric, and Skill Development.**  
**Tactics** are the specific actions and tools for each strategy.

## INCREASING ACCESS

Strategies that address barriers to participation and build on the experiences within the community.



Strategies	Tactics
<b>Community Engagement</b>	<ul style="list-style-type: none"> <li>Create plans for internal and external communication and outreach</li> <li>Build cross-sector partnerships to cultivate a STEM learning ecosystem</li> <li>Offer community and family engagement opportunities</li> </ul>
<b>Data Informed Decision Making</b>	<ul style="list-style-type: none"> <li>Identify ways to collect youth and program level data to improve program quality</li> <li>Collect feedback from youth and families</li> <li>Conduct evaluation to assess broader community needs</li> </ul>
<b>Program Design (quality and intentionality)</b>	<ul style="list-style-type: none"> <li>Involve stakeholders who represent the community and offer diverse perspectives in program design</li> <li>Form an advisory board with key stakeholders to provide ongoing guidance and feedback</li> <li>Be intentional in program design to engage and effectively serve all youth</li> </ul>
<b>Program Operations</b>	<ul style="list-style-type: none"> <li>Ensure all youth have access to programming (location, schedule, transportation, technology)</li> <li>Ensure all youth feel welcome (broad outreach to diverse populations, marketing designed to engage all youth, welcoming environment)</li> <li>Recruit and retain staff who are representative of the community</li> </ul>

## YOUTH-CENTRIC

Strategies that build on the specific strengths, needs, and challenges of youth.



Strategies	Tactics
<b>Peer Support</b>	<ul style="list-style-type: none"> <li>Provide a supportive environment for all youth</li> <li>Encourage positive peer connections</li> <li>Help all youth feel they are part of a STEM community</li> </ul>
<b>Positive Youth Development</b>	<ul style="list-style-type: none"> <li>Support all youth to make personal connections to and a greater sense of belonging in STEM</li> <li>Help all youth develop self-efficacy and confidence in STEM</li> <li>Elevate all youth voice and choice</li> </ul>
<b>Relevance</b>	<ul style="list-style-type: none"> <li>Connect programming to school, home, and other settings</li> <li>Leverage all youth interests, knowledge, and lived experiences</li> <li>Show how STEM can make a difference in youth's lives and in their communities</li> </ul>
<b>Supportive Relationships</b>	<ul style="list-style-type: none"> <li>Make community and family connections</li> <li>Provide opportunities to interact with and learn from diverse STEM role models</li> <li>Recruit and retain staff skilled in developing and supporting positive relationships</li> </ul>

## SKILL DEVELOPMENT

Strategies that are personally relevant to youth and enable them to develop STEM and 21st century skills.



Strategies	Tactics
<b>Connected Pathways</b>	<ul style="list-style-type: none"> <li>Provide opportunities to learn about and explore a variety of STEM careers</li> <li>Curate partnerships with other STEM programs to encourage further participation</li> <li>Provide exposure to relatable STEM role models who have experienced diverse career pathways</li> </ul>
<b>Curriculum</b>	<ul style="list-style-type: none"> <li>Foster engineering mindset practices (applying math and computer science)</li> <li>Create a learning environment that offers voice and choice to engage all youth in STEM</li> <li>Provide opportunities for all youth to do authentic practices that STEM professionals do</li> </ul>
<b>Professional Development (for the field)</b>	<ul style="list-style-type: none"> <li>Provide opportunities for educators to reflect on their own lived experience</li> <li>Provide training for educators to make STEM personally relevant to all youth</li> <li>Engage educators in MGM professional development offerings (role models, engineering mindset, growth mindset, etc.)</li> </ul>
<b>21st Century Skills</b>	<ul style="list-style-type: none"> <li>Provide opportunities to collaborate and develop collaboration skills</li> <li>Ask open-ended questions to help youth critically think and deepen their understanding</li> <li>Facilitate development of a growth mindset</li> </ul>