STEM learning ecosystems have the potential to:

1 Enable children's understanding of cross-cutting concepts to unfold and deepen in intentionally connected ways over time and across settings

2 Build children's scientific practice skills and knowledge through multiple exposures and experiences, including those in which children have the freedom to make and learn from mistakes as part of scientific tinkering and experimentation

3 Spark and nurture children's interest in and enthusiasm for STEM over time, by not only bringing science lessons to life in STEM-rich learning environments like museum exhibits, biology labs, recording studios, and marine research vessels, but also exposing children to STEM professionals and a variety of STEM career options

4 Ensure that children build complex skills, including how to exercise their own agency, solve real-world problems, build relationships with adults and peers, and test out their own leadership and teamwork capabilities as they experience STEM learning connected across different environments

5 Intentionally support those youth historically under-represented in STEM including girls, linguistic and racial minorities, and economically disadvantaged young people, to foster diverse and inter-connected STEM learning experiences

6 Increase understanding and build capacity among parents and caregivers to support their children's learning by ensuring they receive consistent messaging, guidance and resources from multiple, diverse learning settings

7 Implement creative and diverse methods of assessment, equipping young people with certifications, badges, portfolios or other proof points demonstrating mastery of skills and knowledge that are understood and respected in diverse environments