Building the Field: Designing and Implementing Community-Based STEM Learning Ecosystems Initiative

Request for Qualifications
Invitation Only
June 2015

For more information about the Toolkit and Request for Qualifications, please visit [www.stemecosystems.org](http://www.stemecosystems.org) or email info@stemecosystems.org.

The Building the Field: Designing and Implementing Community-Based STEM Learning Ecosystems Initiative is supported by the STEM Funders Network.

The STEM Funders Network brings together grantmakers working in STEM to learn from one another, leverage their collective resources and collaborate on high-impact projects they could not undertake alone. The vision of the STEM Funders Network is that all U.S. students should have equal opportunity to engage in high-quality STEM learning experiences that will enhance their ability to succeed in a STEM career or other chosen path.
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I. BACKGROUND AND CONTEXT

Building the Field: Designing and Implementing Community-Based STEM Learning Ecosystems Initiative

The Building the Field: Designing and Implementing Community-Based STEM Learning Ecosystems Initiative (aka STEM Funders Network STEM Learning Ecosystems Initiative) builds on the STEM Funders Network’s investment in three recent reports that have garnered widespread attention and sparked robust discussion among STEM educators, policymakers, funders and other stakeholders:

- A working paper released in February 2014: *How Cross-Sector Collaborations are Advancing STEM Learning*, described an ecological approach to transforming STEM learning opportunities and outcomes for young people. Authors Saskia Traill and Kathleen Traphagen profiled the attributes and strategies of 15 emerging “STEM Learning Ecosystems” committed to a broad and inclusive vision of STEM learning. They noted that STEM learning ecosystems encompass preK-12 schools; community settings such as after-school and summer programs; institutions of higher education; STEM-expert organizations such as science centers, museums, corporations, non-profit organizations or professional associations; and informal experiences at home and in a variety of environments. By cultivating a STEM Learning Ecosystem, a community can harness the unique contributions of all these different settings in symbiosis to deliver STEM learning for all young people and enable them to become engaged, knowledgeable and skilled in the STEM disciplines as they progress through childhood into adolescence and adulthood.

- Also in 2014, the National Academy of Engineering and the Board on Science Education of the National Research Council issued a study entitled, *STEM Integration in K-12 Education: Status, Prospects, and an Agenda for Research* (2014), proposing a framework for researchers, practitioners, and others to identify, discuss, and investigate integrating the STEM disciplines in K-12 education.

- Finally the National Research Council and the STEM Funders Network hosted a convening in February 2014 entitled *STEM Learning is Everywhere* to explore how connections among the formal education system, afterschool programs, and the informal STEM education sector could improve STEM learning. The report from the convening is entitled: *STEM Learning Is Everywhere: Summary of a Convocation on Building Learning Systems* (2014).

These reports all come to the same conclusion: **STEM learning must be cross-disciplinary and integrated along all learning platforms, both in and out of school.**

It is only through thoughtful and strategic planning and collective efforts that young people will be able to fully engage in true project-based immersive learning experiences that stimulate their interest, enthusiasm and engagement leading to rigorous STEM learning in and out of school. Young people can and should experience STEM learning everywhere. *How can organizations – across sectors – work together to cultivate a diverse array of connected STEM learning opportunities for every young person?*
A. Why Cultivate STEM Learning Ecosystems?

*Partially excerpted from Report from the Field: How Cross-Sector Collaborations are Advancing STEM Learning. Trapaghen, K., & Traill, S. (2014)*

School is an important setting for STEM learning but not the only one. Research shows that people learn most effectively across settings, over time, within context, driven by their own interests, and informed by culture and values. Experiences beyond the classroom are critical to challenging young people and enabling them to imagine, experiment, fail, redesign, create and lead. Unfortunately, young people of color, girls, young people with disabilities, and those who are economically disadvantaged do not have adequate access to those experiences. In most places, the institutions that could make up a ‘STEM Learning Ecosystem’ are largely unconnected and not unified behind a set of common goals.

Communities that set out to cultivate their STEM Learning Ecosystem develop a shared vision and assess the strengths and gaps of their efforts to reach that vision. Educators, whether K-12 teachers, after-school staff, or experts in informal STEM institutions, work across settings to increase their individual efficacy, while at the same time deepening understanding and respect of the role of educators in other settings. Effective practices are shared across settings, while innovative program models are flexibly adapted to solve entrenched STEM learning challenges. Cross-sector professional development opportunities and communities of practice improve pedagogy and build knowledge among educators across settings. In a STEM Learning Ecosystem, young people’s experiences could connect horizontally across formal and informal settings at each age, and scaffold vertically as they build on each other to become deeper and more complex over time.

In a robust STEM Learning Ecosystem:

- Young people historically under-represented in STEM -- including girls, economically disadvantaged young people, linguistic minorities, young people of color, and young people with disabilities, are specifically sought out to ensure they access high-quality, diverse and inter-connected STEM learning experiences.

- STEM learning opportunities are designed and connected to reflect the reality of young people’s lives: learning not just in school but out-of-school, online, home and everywhere.

- STEM educators across settings are equipped through professional development and supports to lead young people in robust, inquiry-based, collaborative and rigorous learning.

- Young people develop scientific practice skills and build understanding of cross-cutting concepts in intentionally connected ways over time and across settings. They make and learn from mistakes. They experience the joy of learning and the rewards of persistence through unhurried opportunities to tinker, experiment, and explore. These learning experiences are grounded in the expectations and opportunities of the [Next Generation Science Standards](#) and other similar state standards for science education and the [Common Core Standards for Mathematical Practice](#).

- Experiences in multiple settings enable young people to build complex skills, including how to design and test solutions to real-world problems, work with adults and peers, and test out their own leadership capabilities. Educators understand and nurture the reinforcing connections among students’ competency to engage in STEM practices and development of key social/emotional skills.
• Young people develop a “STEM identity,” or self-perception of competence in STEM, by engaging in challenging, relevant problem-solving on issues they care about; being publicly recognized for their efforts; and gaining support from their parents and guardians for their pursuit of and interest in STEM.

• Parents and guardians receive consistent messaging, guidance and resources from multiple sources about how to support their children’s STEM success.

• What young people know and are able to do is assessed, shared and respected in diverse environments. Assessment methods may include badges, portfolios or other competency-based proof points demonstrating mastery of skills and knowledge.

• Young people have opportunities to meet and build mentoring relationships with STEM professionals from similar backgrounds who serve as role models. Young people learn, from an early age, about a range of STEM career possibilities.

• PreK-12 STEM learning, in and out of school, is connected to post-secondary and STEM career opportunities. STEM learning pathways match the needs of STEM higher education and workforce.

B. Suggested Ecosystem Design Principles

Although the STEM Funders Network recognizes that each STEM Learning Ecosystem is unique in design, theory and practice, we suggest the following design principles to help unify and define the ecosystem concept. Ecosystems already exist; we all live within them. Cultivating a STEM Learning Ecosystem to meet the needs of all young people requires intentional and strategic action toward shared goals.

1. There is no one right way, no ‘correct model’ for cultivating STEM Learning Ecosystems.

2. Ecosystems are naturally complex and messy, and not necessarily linear. The goal of ecosystem cultivation is not to design the same STEM experience for all young people – but to maximize, grow and connect STEM learning opportunities so all young people have access to robust and connected learning experiences along pathways that are individualized according to their own interests. Cultivating ecosystems requires dynamic leadership and diverse partners who share respect for each other’s roles across sectors. The collaboration works by attending to the ‘enlightened self-interest’ of all partners.

3. Ecosystem cultivators embrace the values, beliefs, interests, and strengths of diverse cultures representative of the communities they serve. Non-traditional partners and creative new ways to partner across sectors are welcomed.

4. Identifying and eliminating barriers to equitable access to high quality STEM learning for all young people is a key driver of ecosystem cultivation.

5. STEM Learning Ecosystems are grounded by A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas (2012); Surrounded by Science: Learning Science in Informal Environments; Community Programs to Promote Youth Development (2002) and other research about how young people learn and develop.
6. Practices promote active, inquiry-based learning to: 1) build students’ competence and self-efficacy in STEM; 2) deepen their understanding of their current and future potential to solve complex problems; and 3) strengthen their social-emotional skills, including persistence, resiliency, creativity, problem-solving and collaboration.

7. Ecosystem cultivators value transparency and understand that intentional data sharing and data-based decision-making are critical to progress from the ecosystem that exists naturally to the robust ecosystem envisioned.

8. Collaborators prioritize time for reflection and peer exchange, among and between practitioners engaged in implementing specific cross-sector strategies, and organizational leaders focused on sustaining the effort.

Read more about Ecosystem Design Principles and view resources at www.stemecosystems.org.

II. OVERVIEW

The STEM Funders Network STEM Learning Ecosystems Initiative is designed to promote the cultivation of STEM Learning Ecosystems in communities throughout the country. Its purpose is to bring together STEM Learning Ecosystems across the nation, contributing to the larger STEM education and learning landscape.

A. Initiative Goals

- Select up to 25 local, regional and state STEM Learning Ecosystems from across the country to participate in year one, adding additional sites in subsequent years. Ecosystems will encompass preK-16 schools; community settings such as after-school and summer programs; institutions of higher education; STEM-expert organizations such as science centers, museums, corporations, intermediary and non-profit organizations or professional associations; businesses; funders; and informal experiences at home and in a variety of environments.

- Support communities in the design, cultivation and implementation of STEM Learning Ecosystems through expert technical assistance.

- Support selected STEM Learning Ecosystems to participate in a national Community of Practice to share successes, challenges and opportunities for growth.

- Inform the STEM education field about the importance of creating connected STEM-rich learning opportunities for children, youth and their families across the educational continuum from preschool through higher education.
B. Participation Benefits

The STEM Funders Network STEM Learning Ecosystems Initiative will support up to 25 emerging and established STEM Learning Ecosystems in year one in the design and cultivation of local, regional and state ecosystems. All selected sites will become part of a new national Community of Practice and participate in peer and expert-led technical assistance and support within the community and on an individualized basis.

**From September 2015 to September 2016, each selected STEM Learning Ecosystem will participate in:**

**National STEM Learning Ecosystems Community of Practice**

The STEM Funders Network will host two Community of Practice convenings for all 25 STEM Learning Ecosystems. Registration, meals, travel and hotel for two ecosystem members per site will be provided.

The Community of Practice will provide the platform for a national and regional peer-to-peer professional learning network for communities to share information and expertise. Participants will help shape the agenda for the Community of Practice and will access STEM and cross-sector collaboration experts from across the country, including but not limited to: connections to the Common Core State Standards and Next Generation Science Standards; assessing and evaluating STEM Learning Ecosystems; developing and honing strategic approaches, and foundational principles of an ecosystem cultivation approach.

In addition, communities will have the opportunity to participate in monthly Community of Practice phone calls/web-based meetings with national, state and regional speakers (including grantmakers, STEM experts, cross-collaboration experts, education policy experts) and maintain communication and share resources through a web-based platform.

**Ecosystem Design and Implementation Technical Assistance**

To support the design and implementation of STEM Learning Ecosystems across the country, a team of STEM and cross-sector collaboration experts will provide technical assistance individualized to the needs of each community. The initiative will match each site with a consultant based on the site’s specific needs. The consultant will support in the development and implementation of each STEM Learning Ecosystem and act as the primary contact for the site, and will maintain contact through monthly calls and possibly one site visit. The consultant team will be overseen by the STEM Funders Network leadership.

Technical assistance will also utilize the [Building the Field: STEM Ecosystems Toolkit](#). Although the website will be open source, selected sites will have the opportunity to work with the consultants in implementing components of the Toolkit. Later in 2015, an online community will be established on the website for selected sites to share resources and information.
Additional Support and Resources

In addition to the Community of Practice and technical assistance, the STEM Funders Network STEM Learning Ecosystems Initiative will:

- Award up to 10 communities collaboration grants up to $10,000. Communities awarded funding will be expected to secure a minimum 2:1 in matching support within the first six months of the initiative.

- Support in understanding federal, state and local STEM policy, research and funding landscapes and assistance in building sustainability. Resources include a partnership with the Broadcom & Samueli Fellow at the Office of Science and Technology Policy at The White House and US Department of Education.

- AmeriCorps VISTA Members may serve select STEM Learning Ecosystems through a partnership with the Corporation for National and Community Service. AmeriCorps VISTA projects generally have two main conceptual components: they (1) build the capacity of programs or organizations that (2) help individuals and communities out of poverty. AmeriCorps VISTA members are well-positioned to help communities develop, expand, and strengthen STEM ecosystem efforts by serving as a critical link to integrating STEM efforts within an ecosystem.

The following list provides some examples of activities that AmeriCorps VISTA members could perform to achieve the goals of an effective STEM ecosystem:

- Coordinating place-based STEM activities while identifying gaps and overlap within a community;
- Expanding community partnerships;
- Facilitating coalition building (e.g. connecting formal STEM education providers with informal providers, connecting institutions of higher learning with informal and formal STEM programming, etc.);
- Identifying new opportunities for STEM programming;
- Recruiting and managing community volunteers (including STEM professionals as mentors);
- Developing career fairs, events, and other outreach activities; and
- Identifying new resources such as funding, volunteers, in-kind support, and partnerships.

The availability of this additional AmeriCorps VISTA resource is not confirmed and will be dependent upon commitment from additional partners.

C. Expectations of Selected Sites

STEM Learning Ecosystems must demonstrate involvement by a diverse set of partners – both to encompass the rich variety of STEM learning opportunities in each community, and to expand understanding across the field of STEM education that the ecosystem approach is critical to achieving transformational success in STEM learning outcomes for young people.
Applicants must demonstrate the involvement of, at a minimum:

- Formal PreK-12 Learning: (schools and school systems);
- Out-of-School Learning: out-of-school time and/or summer learning provided by schools or community-based organizations where available, out-of-school focused intermediary organizations;
- STEM-expert organizations such as science centers, museums, corporations, non-profit organizations or professional associations;
- Business and industry;
- Post-secondary STEM and higher education;
- Local or regional public or private funders; and
- Parent organizations or strategies to include families.

With technical assistance from the STEM Funders Network, the selected STEM Learning Ecosystems are expected to design, cultivate, expand and sustain cross-sector partnerships by engaging in activities, such as:

- Cross-sector collaboration among leadership and practitioners to understand their community’s STEM learning challenges, identify gaps, and define collective goals;
- Provide high-quality professional learning, development and support among partners;
- Provide multiple pathways to STEM mastery and careers for all students, with particular attention paid to young people of color, linguistic minorities, economically disadvantaged young people, girls and young people with disabilities;
- Develop and implement cross-platform hands-on, project-based experiential programming such as maker activities, science fairs, fab labs, and similar activities;
- Launch, expand and connect initiatives;
- Contribute to evaluation framework through shared measurements; and
- Develop collective strategies to assess impact.

D. Applicant Criteria

The STEM Funders Network is inviting communities to apply for this opportunity. All communities, regardless of the stage of their ecosystem development, are required to fully complete the application process to participate in this national initiative.

To be eligible for consideration, the applicant must meet the following criteria:

- **Type of Organization**: Applications will be accepted from the following types of organizations: (Please note: Lead applicant should be determined by community-based ecosystem and there shall be only one application per community.)
  - Non-profit organization, with a significant focus on and interest in STEM education, that is exempt (with Section 501(c)(3) designation) or public organization, or
• **Location:** Applicants are expected to represent a wide community base, such as a city, region or state. An applicant such as a school within a larger school district, where the ecosystem initiative is limited to that school site only, for example, would not qualify. The intent is for ecosystems to represent communities with a diverse composition of community stakeholders and reach.

• **Selection:** Up to 25 communities will be selected to participate the Community of Practice and receive technical assistance in designing and cultivating their STEM Learning Ecosystem. Out of the selected 25 communities, up to 10 communities will be awarded up to $10,000 in one-time collaboration grants (the community will be responsible for securing a 2:1 match in support within the first six months of the project).

• **Cross-Sector Partnerships:** Applicants are expected to represent emerging or established collaborative relationships with their cross-sector counterparts and provide clear evidence how their connections support the development of their STEM Learning Ecosystem. Communities must demonstrate established or emerging relationships with multiple partners, including: preK-16 schools; community settings such as after-school and summer programs; institutions of higher education; STEM-expert organizations such as science centers, museums, corporations, intermediary and non-profit organizations or professional associations; businesses; funders; and informal experiences at home and in a variety of environments.

• **STEM Learning Ecosystems Attributes and Strategies:** Applicants should review the attributes and strategies as identified in Report from the Field: How Cross-Sector Collaborations are Advancing STEM Learning. Traphagen, K., & Traill, S. (2014). Communities should use those attributes and strategies to gauge their readiness for participate in the Initiative.

### E. Participation and Award Requirements

Selected STEM Learning Ecosystems will be responsible for providing two completed self-assessments (one at the time of this application and one with the final report) and one final report. Selected sites must also work with the technical assistance team throughout the course of the initiative period to complete a design and implementation plan and participate in the development of the Community of Practice convenings. Selected sites will also be expected to participate in the evaluation of the Initiative, details of which are currently being developed. Failure to meet accountability requirements will jeopardize potential future participation in this national effort and funding opportunities with the STEM Funders Network.
III. APPLICATION INSTRUCTIONS

This section describes the required components for your application. Please see the appendices for the information that you will need to complete the application prior to your online submission. The application will be available online at www.stemecosystems.org.

A. Online Application Instructions

All applications must be submitted online at: www.stemecosystems.org. All invited communities will be provided a password with their invitation to apply. The online application has been designed for applicants to save and return to your application at any time; however, it will require an email address to return to the application.

The application is comprised of the following sections:

- Applicant Summary
- Background and Narrative
- Strategy Prioritization
- Self-Assessments
- Partners
- Sustainability
- Collaboration Grant
- Grant Budget

Each section must be completed before you can complete and submit your application. We are encouraging communities in all stages of ecosystem development to apply. Therefore, we understand and expect diverse experiences and capabilities.

B. Applicant Summary

Please provide the following information:

- Proposed or existing STEM Learning Ecosystem Name
- Brief description (200 word maximum)
- Name of the city, county, region or state as defined in the application
- Lead applicant agency/organization name, street address (and/or mailing address, if different); phone, website.
- Lead contact person name, title, phone number, and e-mail address
- Tax ID number of applicant (Federal Employee Identification Number, or non-profit status, e.g. 501(c)(3))
C. Background and Narrative

Please provide an overview of your emerging or established STEM Learning Ecosystem. Include quantitative and/or qualitative data, citing the specific source.

Include the following elements:

1. **Describe your community.** (750 word maximum)
   a. Youth (0-24) population size and demographics, including but not limited to: race, ethnicity, socio-economic status, education indicators, etc.

2. **Describe your STEM Learning Ecosystem.** (750 word maximum)
   a. Describe key components, including but not limited to diverse stakeholders representing a variety of settings; current collaborative programs; shared vision and/or goals; design principles.
   b. Identify key leaders, including but not limited to their individual and organizational capacity to design and cultivate STEM Learning Ecosystems.
   c. Identify content experts, including but not limited to STEM content expertise for professional learning and development and partners with cross-sector collaboration expertise.

3. **Assess your Strengths and Opportunities for Growth.** (750 word maximum)
   a. Describe three strengths of your STEM Learning Ecosystem.
   b. Describe three areas of growth needed in your STEM Learning Ecosystem. Please include those attributes you rate as needing improvement for your ecosystem. Discuss challenges you currently face or anticipate having to address in the design and cultivation of your STEM Learning Ecosystem.

D. Strategy Prioritization

The STEM Funders Network STEM Learning Ecosystems Initiative will support communities in the design and implementation of their Ecosystems through the development of a Community of Practice and provision of technical assistance. In this section, describe the areas in which you see the greatest potential for your STEM Learning Ecosystem, if selected for the initiative.

- Review the Report from the Field: How Cross-Sector Collaborations are Advancing STEM Learning (2014) and the Building the Field: STEM Ecosystems Toolkit website.
- Describe your initial planning and/or activities for Strategy #1 as described on the Building the Field: STEM Ecosystems Toolkit website (see below). Provide support for the strategy and core elements. Describe how your ecosystem would utilize the technical assistance and benefit from participation in the Communities of Practice. (1000 word maximum)
For Strategy #1: Robust cross-sector partnerships designed to realize a collective vision of STEM success for young people are key to cultivating a rich STEM learning ecosystem. Stakeholders in many communities are coming together in new ways to connect formally disparate efforts. Suggested activities include:

- Identify a willing convener and resources for convening
- Assess community’s dynamics and readiness to engage in collaborative work
- Convene partners and collectively develop a vision, using “design thinking” to design robust STEM learning ecosystem
- Define current landscape, and identify priority gaps in access, quality and outcomes for young people’s STEM success.
- Consider suggested design principles
- Choose collective goals and define what each stakeholder will do to achieve those goals
- Identify additional partners through brokering introductions and outreach
- Create and implement financing and policy strategies for scale and sustainability
- Develop a communications strategy
- Plan specific approach to continuous improvement – how will the use of data drive increased quality in all programmatic settings?
- Prioritize time for reflection and peer learning as part of the ecosystem effort

- In addition to Strategy #1, select an additional strategy (Strategies #2 – 4) that would be a priority for your ecosystem (visit www.stemecosystems.org for descriptions of all strategies). Describe existing or emerging supports and elements for this strategy. Describe how your ecosystem would utilize the technical assistance and participation in the Communities of Practice. (1000 word maximum)

- Describe your ecosystem’s current evaluation efforts. If your ecosystem does not have an evaluation plan, have you identified an evaluation partner as part of your ecosystem? (750 word maximum)

E. Self-Assessments

Select at least four ecosystem members to complete the online self-assessments. Once you are in the application, you will be able to copy the link to the online self-assessment form and paste it into your personal email to send to your ecosystem members. The self-assessment is expected to take 7-8 minutes. Submissions of self-assessments from additional ecosystem members are encouraged and will be viewed favorably. (To review the self-assessment questions, please refer to Appendix).
F. Partners

Collaboration across sectors and among different groups within your communities will be a key component of this project.

- Complete the Key Leadership/Partner Form including name, title, organization, and email plus their contribution to your STEM Learning Ecosystem for at least four of the following:
  - Formal PreK-12 Learning: (schools and school systems);
  - Out-of-School Learning: out-of-school time and/or summer learning provided by schools or community-based organizations where available, out-of-school focused intermediary organizations;
  - STEM-expert organizations such as science centers, museums, corporations, non-profit organizations or professional associations;
  - Business and industry;
  - Post-secondary STEM and higher education;
  - Local or regional public or private funders;
  - Parent organizations or organizations serving families.

Letters of Support

- Upload at least three letters of support from these partners through the online application. Letters of support should:
  - Confirm the length and nature of your relationship with the organization, etc.;
  - Provide context for the relationship; and
  - Describe why your organization is positioned to lead this work.

Submissions that demonstrate support from different sectors and stakeholders within your STEM Learning Ecosystem will be viewed favorably.

G. Sustainability

Sustainability and planning beyond the Building the Field: Designing and Implementing Community-Based STEM Learning Ecosystems Initiative will be critical to the cultivation of your STEM Learning Ecosystem.

Describe your plan to sustain your STEM Learning Ecosystem beyond your participation in the STEM Funders Network STEM Learning Ecosystems Initiative. Will the project continue? If not, which components do you anticipate will continue? Are there opportunities to build upon the STEM Learning Ecosystem? (500 word maximum)
H. Collaboration Grant

As part of the application process, the STEM Funders Network STEM Learning Ecosystems Initiative will support up to 10 communities with up to $10,000 one-time collaboration grants. Please note that communities will be expected to secure a 2:1 in match within the first six months of the initiative.

Describe how your emerging or established STEM Learning Ecosystem would benefit from a Collaboration Grant. Your description should build upon the background and narrative, strategy prioritization, and sustainability components of this application. Please include: (750 word maximum)

- Amount requested (communities can request up to $10,000)
- Match amount, including funding sources (funding and in-kind support partners)
- Briefly describe how the funds will be used to support your STEM Learning Ecosystem. Include key activities, key personnel and partners, and timeline

I. Grant Budget

Please complete the budget worksheet for your request. The form can be downloaded from the online application, saved and edited locally on your computer. When it completed, it can be uploaded through the online application. Requests for funds must not exceed $10,000. Note that the project budget should reflect the 12-month funding period (September 2015 – September 2016). Funds will be disbursed in one installment in January 2016. Please note that if awarded, your community will be responsible for securing a 2:1 match in support within the first six months of the project. (See Appendix)

In your budget, please include the following line items:

- Personnel costs
- Non-personnel direct costs (travel, consulting services, meeting supplies, outreach, etc.)
- In-kind support
- Indirect costs
- Match justification (must identify projected funding and in-kind support sources with amounts). PLEASE NOTE: Matching amount can be monetary or in-kind. Please differentiate on proposed project budget.
- PLEASE NOTE: Funds must not be used for capital expenditures (building and construction)

As the lead applicant, if you are a non-profit organization 501(c)(3), please upload either:

- Organization’s most recently filed IRS Form 990 or
- Organization’s most recent audited financial statement
IV. TECHNICAL ASSISTANCE WEBINAR

The STEM Funders Network will provide technical assistance for the request for qualifications process via webinar, where staff and funding members will provide an overview of the project, submission guidance and opportunity for questions. This webinar is optional but interested applicants are strongly encouraged to participate.

Two webinars will be offered:

- Thursday, June 25, 2015 from 10:00am – 11:30am Pacific Time/1:00pm-2:30pm Eastern Time
  - Join the webinar at: https://global.gotomeeting.com/join/485870733
- Wednesday, July 15, 2015 from 10:00am – 11:30am Pacific Time/1:00pm-2:30pm Eastern Time
  - Join the webinar at: https://global.gotomeeting.com/join/414615253

A recording of the webinar will be made available to all applicants shortly following the sessions. In addition, the STEM Funders Network will post Frequently Asked Questions at www.stemecosystems.org. Questions can be submitted via the online form at www.stemecosystems.org.

V. SUBMISSION PROCESS

Applications must be submitted on-line by 5:00pm PT/8:00pm ET on Friday July 31, 2015. Faxed or courier deliveries will not be accepted. Incomplete applications will also not be accepted.

VI. SELECTION PROCESS

Your application will be reviewed by the STEM Funders Network as well as select individuals with experience in cross-sector collaborations. Further information or revisions may be requested from applicants. The estimated selection/award process timetable shall be as follows:

<table>
<thead>
<tr>
<th>Event</th>
<th>Date/Location</th>
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</thead>
<tbody>
<tr>
<td>Release RFQ</td>
<td>Wednesday, June 10, 2015</td>
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<tr>
<td><a href="http://www.stemecosystems.org">www.stemecosystems.org</a></td>
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<tr>
<td>Release STEM Learning Ecosystems Toolkit Website</td>
<td>Wednesday, June 10, 2015</td>
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<tr>
<td><a href="http://www.stemecosystems.org">www.stemecosystems.org</a></td>
<td></td>
</tr>
<tr>
<td>Initiative and RFQ Overview Webinar</td>
<td>Thursday, June 25, 2015</td>
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<td><a href="https://global.gotomeeting.com/join/485870733">https://global.gotomeeting.com/join/485870733</a></td>
<td>10:00am – 11:30am PT/1:00pm – 2:30pm ET</td>
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<tr>
<td>Technical Assistance Webinar</td>
<td>Wednesday, July 15, 2015</td>
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<tr>
<td><a href="http://www.stemecosystems.org">www.stemecosystems.org</a></td>
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<tr>
<td>Announce Selections</td>
<td>Friday, August 21, 2015</td>
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<tr>
<td>Community of Practice Convening #1</td>
<td>November 11-12, 2015 in Washington, DC</td>
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<td>Monthly Community of Practice Virtual Meetings</td>
<td>September 2015 – September 2016</td>
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<tr>
<td>Community of Practice Convening #2</td>
<td>Spring 2016 (date and location TBA)</td>
</tr>
</tbody>
</table>
VII. CONTACT INFORMATION

For questions regarding the application process, please visit www.stemecosystems.org for more information or email info@stemecosystems.org.
VIII. APPENDICES
A. Recommended Reading for Preparation of Application

B. Self-Assessment

The **STEM Funders Network STEM Learning Ecosystems Initiative** is designed to promote the cultivation of STEM Learning Ecosystems in communities throughout the country. Its purpose is to bring together STEM Learning Ecosystems across the nation, contributing to the larger STEM education and learning landscape.

As part of the RFQ application, at least **four** STEM Learning Ecosystem members must complete individual self-assessments. Submissions from additional members of your STEM Learning Ecosystem are encouraged. The self-assessment is expected to take approximately 7-8 minutes. All responses will remain anonymous and will be reported only in aggregate form.

<table>
<thead>
<tr>
<th>Name:</th>
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<tbody>
<tr>
<td>Title:</td>
</tr>
<tr>
<td>Organization:</td>
</tr>
<tr>
<td>State:</td>
</tr>
<tr>
<td>Proposed STEM Learning Ecosystem Title:</td>
</tr>
</tbody>
</table>

I represent (sector) (please select the one that best represents your sector)

- Formal PreK-12 Learning: (schools and school systems)
- Out-of-School Learning: out-of-school time and/or summer learning provided by schools or community-based organizations where available, out-of-school focused intermediary organizations
- STEM-expert organizations such as science centers, museums, corporations, non-profit organizations or professional associations
- Business and industry
- Post-secondary STEM and higher education
- Local or regional public or private funders
- Parent organizations or organizations serving families
- Other _______________
Understanding your STEM Learning Ecosystem’s Approach

The following questions ask you to assess your STEM Learning Ecosystem’s approach to cross-sector partnerships, professional learning, STEM-rich learning environments, and career pathways.

1. STEM Learning Ecosystems rely on the design, cultivation, expansion and sustainability of cross-sector partnerships. How would you describe your STEM Learning Ecosystem’s current practice in cross-sector partnerships using the descriptions provided: Emerging Practice, Collaborative Practice, or Effective Practice? (please select one)

   - [ ] Emerging Practice
   - [ ] Collaborative Practice
   - [ ] Effective Practice

   **Beginning STEM Learning Ecosystem**
   - Emerging Practice
     - Identification of stakeholders
     - Development of collective vision (shared goals)
     - Identification of potential connections for STEM learning opportunities
     - Identifies gaps in connections
     - Development of network

   **Mature STEM Learning Ecosystem**
   - Collaborative Practice
     - Active participation and commitment by stakeholders
     - Establishment of collective vision (shared goals)
     - Examples of connections for STEM learning opportunities
     - Address a few gaps in connections
     - Establishment of network (protocols, communications, meetings, equal voice)

   **Robust STEM Learning Ecosystem**
   - Effective Practice
     - A robust network of stakeholders defines STEM learning goals, connects STEM learning efforts, pinpoints gaps, leverages resources to fill gaps, and continuously assesses impact

2. STEM Learning Ecosystems create and connect STEM-rich learning environments in diverse settings. How would you describe your STEM Learning Ecosystem’s current practice in developing STEM-rich learning environments using the descriptions provided: Emerging Practice, Collaborative Practice, or Effective Practice? (please select one)

   - [ ] Emerging Practice
   - [ ] Collaborative Practice
   - [ ] Effective Practice

   **Beginning STEM Learning Ecosystem**
   - Emerging Practice
     - Identification of STEM-expert learning environments across sectors
     - Identification of programs and materials across sectors
     - Begin to identify and engage students across sector and learning environments
     - Begin to align STEM teaching and learning across sectors

   **Mature STEM Learning Ecosystem**
   - Collaborative Practice
     - PreK-16 students are offered opportunities across sectors through sharing of information of programs
     - Educators and teachers representing the various sectors align STEM teaching and learning
     - Pilot efforts to align and engage the various sectors

   **Robust STEM Learning Ecosystem**
   - Effective Practice
     - There are connected STEM-rich learning environments in multiple settings, including school, OST, summer, community, science institution, home.
     - Programs and places have high quality materials and curricula
     - Young people have sufficient opportunities in and out of school to learn and excel in STEM disciplines in different settings and develop STEM skills, knowledge, and STEM identity/engagement, throughout PreK – 16
3. Equipping educators to lead active learning in diverse settings has been identified as a key strategy for STEM Learning Ecosystems. How would you describe your STEM Learning Ecosystem’s current practice in professional learning and development using the descriptions provided: Emerging Practice, Collaborative Practice, or Effective Practice? (please select one)
   - Emerging Practice
   - Collaborative Practice
   - Effective Practice

| Beginning STEM Learning Ecosystem | Mature STEM Learning Ecosystem | Robust STEM Learning Ecosystem |
|----------------------------------|********************************|********************************|
| Emerging Practice                | Collaborative Practice          | Effective Practice             |
| • Begin sharing professional learning and development opportunities among stakeholders | • Planned professional development and learning opportunities that bring together each of the sectors | • Educators from all sectors have access to high quality professional development and support |
|                                  | • Collaborative workshops/trainings |                                                               |
|                                  | • Co-taught/co-planned/co-hosted professional development and learning events |                                                               |

4. STEM Learning Ecosystems can play an important role in supporting youth to access pathways to further learning and careers. How would you describe your STEM Learning Ecosystem’s current practice of making connections or pathways for youth: Emerging Practice, Collaborative Practice, or Effective Practice? (please select one)
   - Emerging Practice
   - Collaborative Practice
   - Effective Practice

| Beginning STEM Learning Ecosystem | Mature STEM Learning Ecosystem | Robust STEM Learning Ecosystem |
|----------------------------------|********************************|********************************|
| Emerging Practice                | Collaborative Practice          | Effective Practice             |
| • Identification of career awareness and exploration activities across sectors | • Prioritization of pathways in STEM Learning Ecosystem planning | • Pathways to further learning and careers are visible and accessible to youth; adults know how to support them and youth are encouraged and equipped to navigate these pathways (using digital technologies), connecting and building new learning opportunities |
| • Identification of opportunities to include career exploration learning across sectors | • Inclusion of pathways in student learning across sectors | |
| • Identification of pathways to include in ecosystem planning | • Integrated planning and implementation of pathways and career exploration across sectors | |

5. How would you describe your STEM Learning Ecosystem’s overall current practice: Emerging Practice, Collaborative Practice, or Effective Practice? (please select one)
   - Emerging Practice
   - Collaborative Practice
   - Effective Practice
Understanding Your STEM Learning Ecosystem’s Attributes

Please read each statement and indicate your level of agreement.

6. My STEM Learning Ecosystem encompasses a PreK-12 school or school system with leadership who appreciates the value of collaborating with other learning environments. (please select one)

   □ Strongly Disagree □ Neither Disagree or Agree □ Agree □ Strongly Agree □ Don’t Know

7. My STEM Learning Ecosystem includes a robust after-school program, network or intermediary that has the capacity and credibility to work with other formal or informal learning environments. (please select one)

   □ Strongly Disagree □ Neither Disagree or Agree □ Agree □ Strongly Agree □ Don’t Know

8. My STEM Learning Ecosystem has a strong STEM-expert institution, such as a science/tech center, museum, corporation, professional association, non-profit organization, or university that can provide essential resources like professional development for in- and out-of-school educators and hands-on STEM experiences for students and families. (please select one)

   □ Strongly Disagree □ Neither Disagree or Agree □ Agree □ Strongly Agree □ Don’t Know

9. My STEM Learning Ecosystem has commitment from at least one local, regional or state funder to support our STEM Learning Ecosystem efforts. (please select one)

   □ Strongly Disagree □ Neither Disagree or Agree □ Agree □ Strongly Agree □ Don’t Know

10. My STEM Learning Ecosystem has strong representation from a diverse group including but not limited to: Formal PreK-12 Learning: (schools and school systems); out-of-School Learning: out-of-school time and/or summer learning provided by schools or community-based organizations where available, out-of-school focused intermediary organizations; STEM-expert organizations such as science centers, museums, corporations, non-profit organizations or professional associations; business and industry; post-secondary STEM and higher education; local or regional public or private funders; parent organizations or organizations serving families. (please select one)

    □ Strongly Disagree □ Neither Disagree or Agree □ Agree □ Strongly Agree □ Don’t Know
11. My STEM Learning Ecosystem is anchored by strong leaders and a collaborative vision and practice. (please select one)

- [ ] Strongly Disagree
- [ ] Disagree
- [ ] Neither Disagree nor Agree
- [ ] Agree
- [ ] Strongly Agree
- [ ] Don’t Know

12. My STEM Learning Ecosystem has members that are attentive to the enlightened self-interest of all partners. (please select one)

- [ ] Strongly Disagree
- [ ] Disagree
- [ ] Neither Disagree nor Agree
- [ ] Agree
- [ ] Strongly Agree
- [ ] Don’t Know

13. My STEM Learning Ecosystem is opportunistic and nimble. (please select one)

- [ ] Strongly Disagree
- [ ] Disagree
- [ ] Neither Disagree nor Agree
- [ ] Agree
- [ ] Strongly Agree
- [ ] Don’t Know

Thank you for your interest in the Building the Field: Designing and Implementing Community-Based STEM Learning Ecosystems Initiative.
C. Key Leadership & Partners Form

Please complete this key leadership and partners form. Applicants are required to provide at least four key leaders’ information and role. This will be completed online.

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Organization</th>
<th>Email Address</th>
<th>Sector Representation (drop down)</th>
<th>New or Existing Partner?</th>
<th>Anticipated or Contributing Role (max 50 words)</th>
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Please complete this budget worksheet to present an estimated project budget. This will be completed online.

| Proposed Budget: [Insert Project Title] |
| Timeframe: |

<table>
<thead>
<tr>
<th>Revenue</th>
<th>Expected Timing</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grant</strong></td>
<td></td>
<td></td>
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<tr>
<td>(Identify source. List as many as needed)</td>
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<tr>
<td><strong>In-Kind</strong></td>
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<tr>
<td>(goods, services, expertise, etc.)</td>
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<td>(Identify source. List as many as needed)</td>
<td></td>
<td></td>
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<tr>
<td><strong>Total</strong></td>
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<table>
<thead>
<tr>
<th>Expenses</th>
<th>Justification/Role Brief explanation/detail</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td><strong>Personnel Costs</strong></td>
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<tr>
<td>(Salary &amp; Fringe)</td>
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<tr>
<td>(Include name, title, percentage of time on project)</td>
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<tr>
<td><strong>Direct Costs</strong></td>
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<tr>
<td>(Include expenses such as planning meeting costs, supplies, consultants, etc.)</td>
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<tr>
<td><strong>Rent</strong></td>
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<tr>
<td>Must not exceed 8%</td>
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<td><strong>Indirect Costs</strong></td>
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<td>Must not exceed 10%</td>
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<tr>
<td><strong>Total</strong></td>
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E. Submission Checklist

The STEM Funders Network has provided you with this checklist to help you successfully complete your submission. This is for reference only; you do not need to include this checklist in your final submission package.

Pre-Application

☐ Attend at least one technical assistance webinar (Thursday, June 25, 2015 from 10:00am – 11:30am Pacific Time/1:00pm-2:30pm Eastern Time or Wednesday, July 15 from 10:00am – 11:30am Pacific Time/1:00pm-2:30pm Eastern Time)

Submission Package

☐ Overview Information
☐ Background and Narrative
☐ Strategy Prioritization
☐ Self-Assessments
  ☐ Self-assessment 1: (STEM Learning Ecosystem Member)
  ☐ Self-assessment 2 (STEM Learning Ecosystem Member)
  ☐ Self-assessment 3 (STEM Learning Ecosystem Member)
  ☐ Self-assessment 4 (STEM Learning Ecosystem Member)
☐ Partners
  ☐ List of partners
  ☐ Letter of support 1
  ☐ Letter of support 2
  ☐ Letter of support 3
☐ Sustainability
☐ Collaboration Grant
☐ Budget Worksheet
☐ For nonprofits only: most recently filed IRS Form 990 or audited financial statement