Museums for America

Sample Application MA-10-14-0253-14
Project Category: Learning Experiences
Funding Level: $25,001-$150,000

Pacific Science Center

Amount awarded by IMLS:	$149,847
Amount of cost share:	$155,472

Attached are the following components excerpted from the original application.

- Abstract
- Narrative
- Schedule of Completion

Science, Technology, Engineering and Math—Out-of-School Time (STEM-OST)

Abstract

Pacific Science Center (PSC) is proposing Science, Technology, Engineering and Math—Out-of-School Time, a two-year project designed to improve science literacy and to increase interest in STEM careers for youth in grades K-12.

Life in the 21st century requires knowledge of current science and technology, and those who understand science and the scientific process are at a tremendous advantage in their career prospects and in their ability to thrive in our world. While every child will not grow up to be a scientist, every child will grow up to be an adult who will need to understand science to make essential life choices and to be an informed citizen. The challenge is to insure that all children are afforded an opportunity to be inspired to pursue STEM knowledge so that they can actively participate in our increasingly scientific world and develop the potential to become the scientists, researchers and innovators of the future. But not all children have the same opportunities to engage in STEM learning outside of school, despite evidence that afterschool and out-of-school time programs show great promise in nurturing a student's interest in science and in pursuing scientific careers. At the same time, research indicates that support from parents and caregivers can contribute to increasing interest and improve learning outcomes for their children.

Science, Technology, Engineering and Math—Out-of-School Time (STEM-OST) will bring hands-on lessons and activities in physics, engineering, astronomy, mathematics, geology and health to elementary and middle school children during the summer months in underserved communities in the Puget Sound area. The program employs a tiered mentoring approach to increase interest in STEM content and provide direct links between STEM and workforce preparedness. The first tier consists PSC's outreach education teachers mentoring high school students in our Discovery Corps (DC) teen program, instructing them in both STEM content and how to introduce this material to elementary and middle school children in an exciting and inspiring way. Working together in the second tier, outreach education teachers, DC teens and education volunteers deliver programming to children in out-of-school time settings. Each STEM-OST team (comprised of one outreach educator, one education volunteer and two DC teens) visit participating organizations for one hour per day for five sessions. In addition to the Summer Series, Family Science Days held during the summer months and Family Science Workshops offered during the school year for students who participated in STEM-OST Summer Series sessions and their families are designed to provide support for parents and caregivers to increase their engagement in their child's learning and increase their awareness of pathways for STEM careers.

<u>Pacific Science Center is seeking funding from IMLS, Museums for America for a two-year project to expand the successful STEM-OST model to new venues in the Puget Sound region; to modify the lessons and activities so they also serve students in grades K-2; to align the curriculum with the Next Generation Science Standards (recently adopted by the Washington State Legislature) and to increase the number of Family Science Days and Family Science Workshops offered to enhance parent involvement in STEM learning.</u>

PSC's internal evaluator will conduct a formal evaluation of STEM-OST which will include formative as well as summative components and build on learning acquired through evaluations conducted on the past several years of STEM-OST delivery. *Formative evaluation* will be focused on the family-centered events and will be conducted during the first five of twelve Family Science Day and Family Science Workshops and *summative evaluation* will explore the effectiveness of the Summer Series, Family Science Days and Family Science Workshops as well as the impact of the program on children, their families and on the Discovery Corps teens.

Science, Technology, Engineering and Math—Out-of-School Time (STEM-OST)
Museums for America-Learning Experiences

1. PROJECT JUSTIFICATION

Since 2010, Pacific Science Center's (PSC) STEM-OST program has been bringing hands-on lessons and activities in physics, engineering, astronomy, mathematics and health to elementary and middle school children in out-of-school time programs in underserved communities in the Seattle area. The program employs a tiered mentoring approach to increase interest in STEM content and provide direct links between STEM and workforce preparedness. The first tier consists of PSC's outreach education teachers mentoring high school students in our Discovery Corps (DC) teen program, instructing them in both STEM content and how to introduce this material to elementary and middle school children in an exciting and inspiring way. The second tier consists of teams of outreach education teachers, DC teens and education volunteers that work together to deliver programming to children in out-of-school time settings. Each STEM-OST team, comprised of one outreach education teacher, one education volunteer and two DC teens, visit participating community organizations with existing out-of-school time programs for a Summer Series consisting of one hour sessions per day for five days. Family Science Days (held during the summer months) and Family Science Workshops (held during the school year) bring together program participants and their families, providing new opportunities for family learning as well as an occasion for parents and caregivers to increase their awareness of pathways for STEM careers.

STEM-OST evaluations from 2010-2013 show that children responded positively and increased their science content knowledge and interest in STEM areas. Discovery Corps youth described the program as a way to improve their teaching, presentation and leadership skills and work with diverse audiences. Evaluation results have consistently been used to improve the program and make changes to better serve our community.[1] Building on these results, Pacific Science Center is seeking funding from IMLS, Museums for America for a two-year project to expand the successful STEM-OST model to new venues in the Puget Sound region; to modify the lessons and activities so they also serve students in grades K-2; to align the curriculum with the Next Generation Science Standards (recently adopted by Washington state) and to increase the number of Family Science Days and Family Science Workshops offered to enhance parent/caregiver involvement in STEM learning.

The Challenge:

"Our future depends on reaffirming America's role as the world's engine of scientific discovery and technology innovation…Leadership tomorrow depends on how we educate our students today, especially in math, science, technology, and engineering." President Barack Obama, January 6, 2010

Life in the 21st century requires knowledge of science and technology; those who understand science and the scientific process are at a tremendous advantage in their career prospects and in their ability to thrive in our world. While every child will not grow up to be a scientist, every child will grow up needing to make decisions about their lives and about the world around them which will require them to be scientifically literate. The challenge is to insure that all children are afforded an opportunity to develop an interest in and a motivation to learn about the natural and physical world and to think of themselves as science learners (Bell, et.al, 2009) so they can actively participate in our increasingly scientific world.

However, to become scientifically literate, a child needs a variety of experiences along with parental support in school and outside of school to be successful (Buxton & Provenzo, 2011). Research suggests that afterschool

[1] See supporting documents for summary of the 2013 evaluation.

and out-of-school time programs show great promise in nurturing a student's interest in science and in pursuing scientific careers (National Research Council, 2009). However, not all children have the same opportunities to engage in inspiring STEM learning outside of school. For students from low-income families and students of color there are fewer opportunities during out-of-school hours when compared with their middle-class and higher-income peers (Friedman and Quinn, 2006). Research indicates that while students in all socioeconomic groups learn at nearly the same rate during the school year (Miller 2007, Alexander et. al 2007), during the summer months "middle- and upper-income children's skills continue to improve, while lower income children's skills do not." This summer learning loss experienced by low-income children can impact whether a child ultimately earns a high school diploma and continues on to college (Alexander, Entwisle, & Olson, 2007).

Eliminating the summer learning loss in science and math for low-income children will require a variety of approaches. At Pacific Science Center, we believe we can help to close this achievement gap by engaging children at an early age in out-of-school time programs that provide fun and exciting STEM experiences delivered by knowledgeable educators and teen role models accompanied by opportunities for parents and caregivers to learn ways to support their child's learning and to increase their awareness of pathways to STEM careers.

Project Audience: STEM-OST will reach three interrelated audiences:

- **Students entering K–8** in traditionally underserved areas of the Puget Sound region. In each of these communities, STEM-OST will partner with community-based youth organizations and other sites that offer summer childcare that do not typically include STEM activities such as Boys and Girls Clubs and community centers. Many families in the communities served by STEM-OST are economically disadvantaged, with a high percentage of students who are first generation Americans and English Language Learners. The program currently reaches elementary and middle school students in grades 3-8, however our partner sites often serve a greater proportion of younger children and have requested that we offer STEM-OST activities to learners in kindergarten through second grade. This proposed K-2 expansion will allow us to increase the number of students we reach without increasing the number of sites we visit, thus eliminating increased costs associated with transportation, scheduling and staffing.
- **Parents and caregivers** who will support their children's learning and growth will be engaged through participation in the Family Science Days and Family Science Workshops described on page four. Research shows that "parent involvement contributes to the success of children's learning, and informal learning environments allow families to support their children's development in such topics as science, history, and art" (Buxton & Provenzo 2011).
- **Teens** who participate in PSC's youth development program, Discovery Corps, will play an integral role in STEM-OST and will be selected from the current membership of the program. These teens have experience staffing PSC exhibits, interacting with visitors and familiarity with the development of other professional skills. As paid STEM-OST interns, the teens serve as role models for the elementary and middle school students they interact with, demonstrating that science can be fun and worth pursuing in school.

Intended Project Results: At the end of the two-year grant period, we anticipate STEM-OST will have reached 4,000 students entering K–8, who will increase their content knowledge of STEM, demonstrate an increased interest in STEM fields and recognize the role STEM plays in a wide range of careers. Six Discovery Corps interns will gain a greater self-awareness and appreciation of their role/contribution to informal science education, increase their leadership, communication and teaching skills by being role models for younger children, and recognize the role STEM plays in a wide range of careers. An anticipated 2,500 parents/caregivers will increase their engagement in their student's learning, increase their understanding of the importance of STEM literacy, and increase their awareness of the pathways to STEM careers for their children.

STEM-OST Advances Pacific Science Center's Strategic Plan: Two of our seven strategic initiatives will be directly addressed through this project:

1. *Expand Pacific Science Center's role as a driving force for science education: Strive to be the preeminent champion for science, technology, engineering and mathematics (STEM) education in the Pacific Northwest.*
2. *Increase audience diversity: Actively engage children and families in scientific exploration and discovery, reaching out to the diverse audiences of the region in comprehensive and meaningful ways.*

STEM-OST helps Pacific Science Center advance these initiatives in several ways: by providing community-based, out-of-school time programs for students from kindergarten through high school in low-income and diverse neighborhoods, by serving as a driving force for STEM education in our community and by increasing audience diversity. Further, all activities are aligned with Washington state standards and will be updated to ensure alignment with and support for the Next Generation Science Standards, adopted by the Washington State Legislature in October 2013. Family Science Days and Family Science Workshops will encourage family engagement in student learning and promote continuing interest in STEM skills and concepts across generations throughout the year, particularly among diverse audiences.

2. PROJECT WORK PLAN

STEM-OST is a proven model with four years of success leveraging PSC's Science On Wheels outreach educators, existing Science On Wheels curriculum and Discovery Corps teens to deliver the program. Initiated during the gas crisis in 1973, Science On Wheels takes STEM programming to elementary and middle school students in locations across Washington state, delivering science, math and technology-themed programs that include classroom lessons, exhibits and inspiring all-school assemblies. Serving more than 160,000 students and their families each year, Science On Wheels educators also travel to community centers, libraries, festivals and other events. The Science Center's commitment to traveling across the region to provide broad access to our unique and immersive programming is especially important to schools and communities underserved in science education or without the resources to provide supplementary educational experiences.

Moving forward, STEM-OST will create a new volunteer opportunity for 10-15 individuals who are enrolled (or seeking enrollment) in an education certificate program. After acceptance into the STEM-OST program, all volunteers will attend a mandatory orientation and will join the outreach educators to attend a training session offered by Discovery Corps Supervisors to learn how to properly engage and work with teen interns. Volunteers will also receive training similar to that provided to the Discovery Corps interns, where they will learn the components of the STEM-OST program, the organization of the teaching day, the content modules, the parts of a Science On Wheels lesson and associated communication expectations.

Activities: The STEM-OST program consists of three major components:

1. Summer Series: Delivery of this program component takes place during the summer months (June-August), during which outreach educators will be teamed with one or two Discovery Corps youth and one education volunteer to deliver programming to students at each partner site. Teams can deliver programing for up to three distinct groups of students per day per partner site (up to six total sessions per day, with an anticipated total delivery of 150 sessions per summer). During each session, the teams work with 10–30 children per class to ensure impactful learning. Science On Wheels already offers programming specifically geared towards K-2 students during the school year, so our proposed expansion will allow these teams to offer additional grade-appropriate lessons to the younger students at each site.

Prior to delivery, the STEM-OST coordinator will work with staff at participating sites to schedule programs and select the STEM content area that will best serve their audience/group. Each five-class Summer Series will

feature hands-on activities drawn from our existing Science On Wheels curriculum, which has been adapted for the out-of-school time setting and will focus on themes such as engineering, math, physics, astronomy, geology or health. As appropriate and to reinforce concepts learned during the school year, materials will be aligned with the Next Generation Science Standards. At the start of a typical delivery day, the delivery team will meet for approximately one hour to discuss the lesson plan and materials, and to determine what lesson responsibilities the youth and volunteer would like to tackle (e.g., materials distribution, one-on-one work with students, or providing instructions for an all-class activity).

During a given Summer Series session, students will be introduced to a topic (civil engineering, for example) and will engage in a conversation based on their prior knowledge of the topic. They will then be given materials that provide an opportunity for hands-on exploration and problem solving, such as building bridges with K'nex®, that meet certain specifications. The bridges are then tested, redesigned and retested until they meet the specified goal, such as being able to support a certain amount of weight. Each session will end with a conversation about real-world connections. A sample of engineering activities is included in the attachments. After each session, the delivery team will debrief about successes, challenges and opportunities for improvement in the following session. Sites will be given the opportunity to select from two delivery models: our teaching team can visit daily for one week, or one day per week for five weeks. We have found the majority of sites prefer the latter of these two options.

2. Family Science Days: Also conducted during the summer months, we will hold two events at community locations and one at Pacific Science Center each year to encourage parental engagement in their child's learning. Each Family Science Day event held at a partner site will consist of a large hands-on exhibit area, two live science shows and several stations set up with some of the materials students used during their Summer Series sessions. Families at these events will have time to explore the range of activities at their own pace. During each Family Science Day event held at the Science Center, the families of participants will be given free admission to Pacific Science Center for the day as well as the chance to explore stations with some of the materials that were used during the Summer Series sessions. At each of the six Family Science Day events held over the two year grant period, each student will be invited to bring up to five family members or caregivers. If half of all eligible students participate, and each student brings two guests to participate in these events, we would reach an additional 2,600 people each year. In this way, the Family Science Days have the potential to reach 5,200 students, parents and caregivers each year, and 10,400 over the course of the two-year grant. Each family that attends one of the events held at Pacific Science Center will also receive a free, one year family membership to Pacific Science Center (a $100 value).

3. Family Science Workshops: To extend the impact of the program through the school year and to encourage continued family engagement and exploration, STEM-OST will offer six hands-on family workshops over the course of the two-year grant period. Each Family Science Workshop will run for two hours on a Saturday or Sunday, and will consist of two 50-minute back-to back sessions, with snacks or a light meal available for participants. During each workshop, families will explore STEM concepts together, as they work on projects that have been designed to engage and interest learners of all ages. Envisioned activities include DNA extraction with an examination of genetic traits, and an introduction to neuroscience and our senses. These activities will give families the opportunity to work as a team and to link the science to their own experiences. These workshops will take place at selected partner sites that participated in the STEM-OST Summer Series.

Printed Resources for Families: Each child in the Summer Series will receive the PSC-produced STEM-OST Parent Resource Guide aimed at prompting ongoing discussions about STEM and exploring STEM careers in each participant's home. This guide provides additional activities relating to the content showcased in the Summer Series, Family Science Days and Family Science Workshops, as well as information about relevant

careers and associated educational pathways and other engaging, topically relevant content. The STEM-OST Parent Resource Guides are available in English, Spanish, Chinese, Filipino, Vietnamese and Somali, reflecting the diverse backgrounds represented in the neighborhoods that the program serves. See the current Parent Resource Guide in attachments. With support from an IMLS-MFA grant, all curriculum and materials will be aligned with the Next Generation Science Standards (adopted by the Washington State Legislature in October 2013) with a particular focus on the practices and crosscutting concepts.

Project Management: The project will be carried out by PSC's Science and Education division under the direction of **Dr. Ellen Lettvin**, **Vice President of Science and Education**, who will serve as Project Director. The **Director of Science and Education (TBD)** will be responsible for budget oversight and reporting. **Eve Klein**, **Outreach Education Programs Manager,** will hire and supervise program staff, oversee content development and ensure that all project components are proceeding in accordance with the schedule of completion. **Zeta Strickland, Discovery Corps and Science Interpretation Programs Manager,** will oversee all aspects of the Discovery Corps component. A temporary **Outreach Education Coordinator** (TBD) will be hired to manage program logistics including site selection and scheduling of teaching teams as well as schedule the all programs. **Portia Riedel and Josh Kemper, Discovery Corps Supervisors** will oversee Discovery Corps youth, coordinate trainings and handle the scheduling, recruitment and placement of Discovery Corps interns who will assist with delivery of the Summer Series. **Christina Cadenhead,** Evaluator, will oversee all components of the evaluation process.

Project Timeline:

Year 1

- December 2014 – June 2015: Hire Outreach Education Coordinator, establish partner sites (existing and new), schedule delivery program, recruit and train DC teen participants, recruit and train teachers and volunteers, identify curriculum, adjust materials as needed, develop evaluation instruments, administer content, and deliver pre-test and expectations form to Discovery Corps teens.
- Late June – September 2015: Intensive program delivery period of 150 Summer Series sessions and three Family Science Day events. Administer pre-and post-tests to elementary and middle school STEM-OST participants as well as post-test and feedback forms to Discovery Corps teens. DC Supervisors conduct observations. Collect parent feedback and Evaluator observes Family Science Days for formative evaluation; provides feedback to staff.
- September – November 2015: Collect parent feedback and observe two Family Science Workshop events for formative evaluation; provide feedback to staff.

Year 2

- December 2015 – June 2016: Complete formative evaluation and prepare mid-project report; establish partner sites (existing and new) and schedule delivery program; deliver two Family Science Workshops, recruit and train DC teen participants; recruit and train teachers and volunteers; identify curriculum and update as needed. Administer content pre-test and expectations form to Discovery Corps teens. Work to align all curriculum and materials with the Next Generation Science Standards (NGSS). Update Parent Resource Guide to include resources for parents to introduce them to the NGSS. Begin collecting data for summative evaluation of Family Science Workshops.
- Late June – September 2016: Intensive program delivery period of 150 Summer Series and three Family Science Day events. During year 2, Outreach Educators, Discovery Corps youth and education volunteers will emphasize the links between the curriculum and the NGSS, with particular focus on the practices and crosscutting concepts. Administer pre-and post-test to elementary and middle school STEM-OST participants. Collect data for summative evaluation of Family Science Days.
- September – November 2016: Observe final two Family Science Workshops for summative evaluation. Complete program evaluation and prepare final project report.

Financial, Personnel, and Other Resources Needed: Pacific Science Center is requesting $149,844 in support from IMLS to hire a temporary Outreach Education Coordinator; education outreach teachers and Discovery Corp youth to deliver programming; Evaluator to complete formative and summative evaluation; materials and supplies; design and printing of updated resource guides; travel to 2016 ASTC Conference for one staff member and Institutional Review Board fees for initial and annual renewal.

PSC Resources Contributed to the Project: Over the past 51 years, PSC has implemented many federally funded grant programs that require the same administrative, accounting and support services necessary to carry out this program. For this project, PSC will contribute the donated time of the VP of Science and Education; Director of Science and Education; Outreach Education Programs Manager; Discovery Corps and Science Interpretation Programs Manager and Discovery Corps Supervisors; STEM-OST curriculum; training for volunteers; PSC vehicles to transport STEM-OST team and materials to delivery sites; template for Parent Resource Guide translated into various languages and 400 PSC Family Memberships for groups who attend a Family Science Day events held at Pacific Science Center.

Tracking Progress Toward Achieving Intended Results: PSC's Evaluator will conduct a formal evaluation of STEM-OST. This study will include formative as well as summative components and will build on learning acquired through evaluations conducted over the past several years of STEM-OST delivery. *Formative evaluation* will be focused on the family-centered events and will be conducted during the first five of twelve Family Science Day and Family Science Workshop events, and *summative evaluation* will explore the effectiveness of the Summer Series, Family Science Days and Family Science Workshops as well as the impact of the program on children, their families and on the Discovery Corps teens.

Sharing Project Results: Pacific Science Center shares its efforts throughout the community across multiple platforms including on our website, in our Annual Report, through articles in *Discover* – PSC's quarterly newsletter – and in our weekly e-newsletter. We also plan to disseminate the results to our partners in the Washington Informal Science Education Consortium, which includes five other informal science education organizations in our community as well as at the King County Youth Development Conference in 2016. Nationally, project staff will submit proposals for a conference session at the Association of Science-Technology Centers conference in Oct 2016, and poster sessions at both AAM and the Visitor Studies Association conferences in May and July 2016 (for mid-way findings). The final evaluation report will also be made available for free online at informalscience.org.

3. PROJECT RESULTS:

Impact Category	***Intended Impacts***
CHILDREN AND YOUTH PARTICIPANTS will…	
Awareness, knowledge or understanding	· Increase their **content knowledge** of STEM content including engineering, math, physics, astronomy, geology or health). · Become more **aware of** the role STEM plays in a wide range of careers.
Engagement or interest	· Increase their **interest** in learning more about STEM content.
Attitude	· **Identify** themselves as science learners.
PARENTS AND CAREGIVERS will…	
Awareness, knowledge, or understanding	· Increase their **understanding** of the importance of STEM literacy. · Increase their **awareness** of recently adopted Next Generation Science Standards as well as the pathways to STEM careers for their children.
Attitude	· Increase their **comfort** and **confidence** in discussing STEM careers with their children.

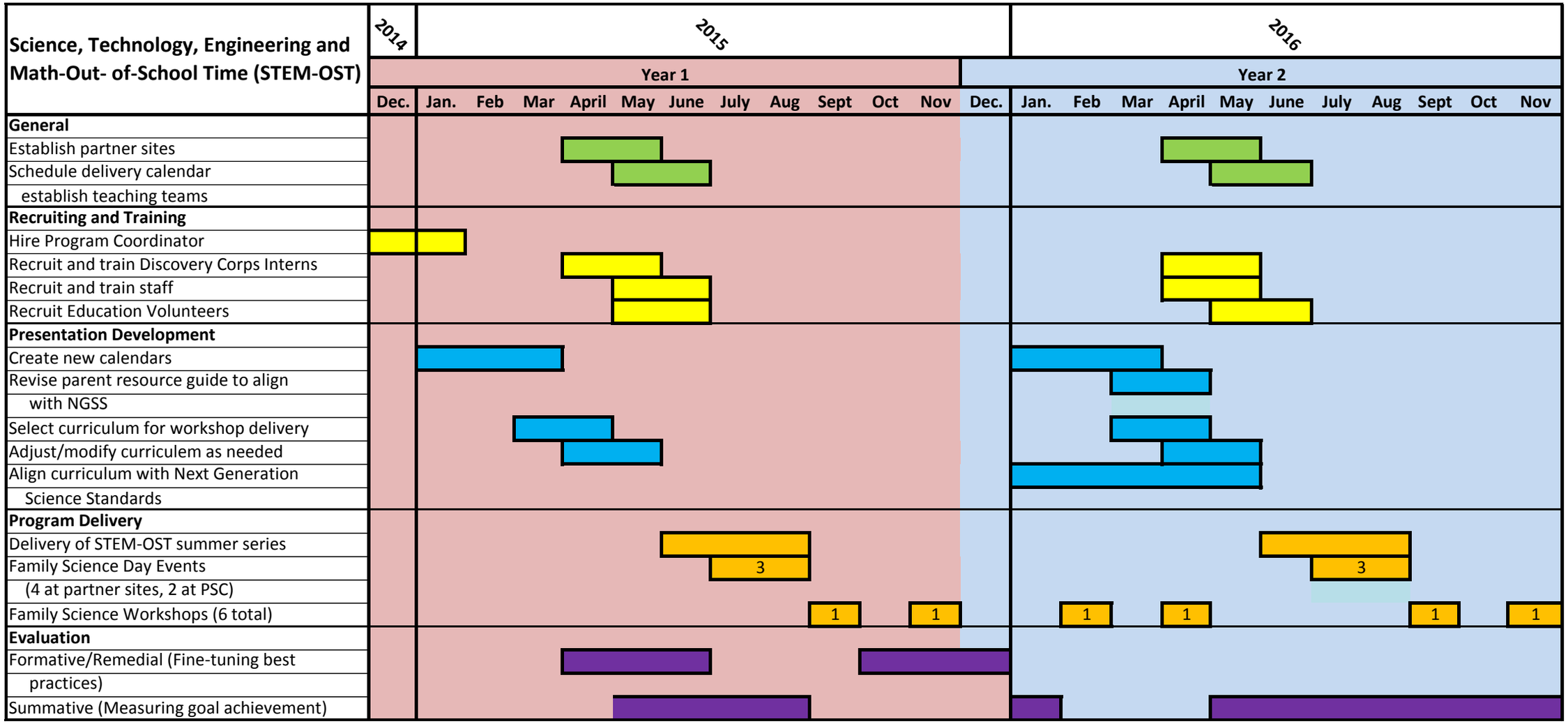
Behavior	• Increase **engagement** in their child's learning.
DISCOVERY CORPS TEENS will…	
Awareness, knowledge or understanding	• Develop a deeper **understanding** of STEM content including physics, astronomy, math and health.
Attitude	• Increase their **comfort** and **confidence** in delivering STEM activities to younger children. • Gain greater **self-awareness** of their role/contribution to informal science education.
Skills or abilities	• Increase their **leadership**, **communication** and **teaching skills**.

Measuring Achievement of Intended Results: Quantitative and qualitative methods will be used to determine the impact of the project on three audiences: children, parents/caregivers and Discovery Corps teens. Measuring goal achievement will take place during the summative portion of evaluation. Below is a summary of the evaluation methodology. The full evaluation plan is included in the supporting documents.

- *Children and youth:* Children will be asked to complete a short questionnaire on the first and last day of the Summer Series. They will be asked about their interest in math and science before and after their experience, whether they would be interested in jobs that use math and science and whether or not they would recommend the program to their friends. They will also be quizzed on their knowledge of the series content, which will be identical on pre- and post-surveys, to determine the extent to which they learned new information.
- *Parents and Caregivers:* Parents and caregivers will be encouraged to complete questionnaires at the end of each family-centered event. The open- and closed-ended questions will focus on whether the overarching goals of the entire STEM-OST program were achieved.
- *Discovery Corps Teens:* Changes in content knowledge will be measured using identical pre- and post-tests, with pre-tests administered during each year's orientation and post-tests at the conclusion of the Summer Series. During orientation and after the Summer Series ends, DC teens' goals and expectations of the program will be recorded in an effort to ascertain whether their goals and expectations of the program are achieved as well as to understand the impact of their participation on their expected career path. Additionally, Discovery Corps Supervisors will conduct observations using a pen-and-paper observation form three times during the Summer Series that will evaluate teens on their communication, teamwork, leadership and teaching skills.

Project Results of Value to the Field: Many museums, libraries, zoos, aquaria and other similar organizations across the country are striving to reach underserved audiences through out-of-school time programs. We hope the STEM-OST model, which leverages professional educators, teens, volunteers, community partnerships and parental support in an out-of-school time setting will serve as a valuable resource for organizations that are seeking to expand their reach into their underserved communities.

Sustaining Project Benefits:
As STEM-OST is one of the key programs that advances our strategic plan initiative to actively engage children and families in scientific exploration and discovery, reaching out to the diverse audiences of the region in comprehensive and meaningful ways, PSC's plan for sustaining the program after grant funding ends includes several avenues. The development, delivery and evaluation of the program for the five years ending May 2015 has been funded by JPMorgan Chase & Company. We believe the program will be of interest to other corporate and private foundations and will seek further funding so we can continue to offer the program free of charge to participants. We will also expand our partnerships to community organizations that can afford to pay a fee for service and will fundraise to cover the costs for those organizations that are unable to pay the fee.


Science, Technology, Engineering and Math-Out- of-School Time (STEM-OST)
2014
2015
2016
Year 1
Year 2
Dec.
Jan.
Feb
Mar
April
May
June
July
Aug
Sept
Oct
Nov
Dec.
Jan.
Feb
Mar
April
May
June
July
Aug
Sept
Oct
Nov
General
Establish partner sites
Schedule delivery calendar
establish teaching teams
Recruiting and Training
Hire Program Coordinator
Recruit and train Discovery Corps Interns
Recruit and train staff
Recruit Education Volunteers
Presentation Development
Create new calendars
Revise parent resource guide to align
with NGSS
Select curriculum for workshop delivery
Adjust/modify curriculem as needed
Align curriculum with Next Generation
Science Standards
Program Delivery
Delivery of STEM-OST summer series
Family Science Day Events
(4 at partner sites, 2 at PSC)
Family Science Workshops (6 total)
3
3
1
1
1
1
1
1
Evaluation
Formative/Remedial (Fine-tuning best
practices)
Summative (Measuring goal achievement)