Wendy Dawson
April 23, 2019

MISSOURI STATE LIBRARY
Spotlight on Literacy Grant Project
Application Form

Application Due: February 1, 2018

Project Number:
_____
(State Library Use Only)

This sheet must be the first page of the application. Please type.

PART I: APPLICATION FORM

Name of library: Mid-Continent Public Library

Federal Tax I.D. or Missouri Vendor Number if different:
DUNS Number:

Address: 15616 E. 24 Hwy.
City: Independence, MO
County: Jackson County
Zip Plus Four: 64050-2057

Phone: 816.836.5200
Fax:

Library Director: Steven V. Potter
Library Director E-Mail: spotter@mymcpl.org
Library Director Phone: 816.836.5200

Project Director (contact person): Wendy Dawson
Project Director E-Mail: wd7t6@mail.missouri.edu
Project Director Phone:

Total population of library's legal service area: 809,610
Estimated number of persons impacted by this project: 3500
Target audience: Teens/Youth Ages 13-18

Project Title: STEM: Projects with Professionals

LSTA Funds Requested from Budget Worksheet: $4000
Local Funds from Budget Worksheet: $2000

Project Description:

Mid-Continent Public Library branches in Liberty, Missouri seek grant funding to provide a STEM literacy program titled STEM: Projects with Professionals for teens and youth ages 13-18. This program will provide collaborative STEM projects within the community by utilizing the talents of professionals, educators, community leaders, librarians, and teens. By involving youth in practical experiences that build STEM skills, the library will be able to help youth form collaborative relationships, improve academic performance in STEM classes, engage youth in projects that encourage pursuit of STEM careers and provide value to the community through library programs.

Part II: Program Narrative

1: Detailed Project Description

The Spotlight on Literacy grant will allow Mid-Continent Public Library (MCPL) to promote STEM literacy in Liberty's teen population by giving them opportunities to engage in collaborative STEM activities that benefit their community. STEM jobs will continue to grow in the United States (YALSA, 2013, p. 2). Libraries can encourage youth to improve math and science skills and to pursue future STEM careers by providing engaging STEM programs (YALSA, 2013, p. 2). Collaboration between librarians, professionals and educators can build STEM skills in youth that will equip them to become tomorrow's professionals (Latham, Julien, Gross & Witte, 2016, p. 199). MCPL seeks grant funding to implement the Projects with Professionals series to promote STEM literacy through collaboration and involvement of youth in community projects. The projects will improve computer coding/programming skills, engineering skills through a community engineering project, and science skills.

Woodneath and Liberty library branches of the Mid-Continent Public library, serve the population of just over 29,000 Liberty residents (U.S. Census Bureau, 2010b). The Liberty School district provides education to the students of the Liberty area which covers Clay County Missouri and includes two high schools: Liberty North High School and Liberty High School (Smith, 2017, p. 26). The Liberty School District currently enrolls over 3,500 high school students (Smith, 2017, p. 16). Liberty's population is 91% white, 3.6% black or African American, 4% Hispanic or Latino, 1% Asian, and a small percentage of other races (U.S. Census Bureau, 2010a). Mid-Continent libraries, Liberty School District, STEM professionals and Liberty's community will team up with area youth to encourage STEM education through hands-on projects that benefit the lives of Liberty residents.

Mid-Continent's library program will be titled: STEM: Projects with Professionals. This project series will consist of three collaborative STEM projects. Each project will involve teens, STEM professionals, STEM high-school teachers, community leaders or volunteers, and librarians, both school media specialists and Mid-Continent public librarians. The library will seek input from teachers and professionals on the STEM skills needed by teens today. The projects will take place at the Woodneath Library for six months from June through November. The projects will be community-based STEM opportunities.

The project's target audience is youth ages 13-18. The program will meet at the library on the first and third Fridays from 4:00 p.m. to 6:00 p.m. Each project will consist of a total of four library meeting times. The first project series will begin on June 7, 2019. The second project will begin on Friday, August 2, 2019. The third and last project will begin on October 4, 2019. The meetings will consist of STEM topic presentations on engineering, technology and science as well as working on projects with professionals. The first Friday meeting of each project will include a brief (fifteen to thirty minutes) professional guest lecture about coding/programming, engineering, and the science of communication with an overview of the project the teens will work on. Next, teens and professionals will brainstorm together, develop plans, and begin work on their projects. Teens will decide to work alone or in groups of two to four. The next three meeting times will provide time for teens and professionals to work on the projects together. This collaboration between teens and professionals in a community-based project will improve science, technology, engineering and mathematics skills and help teens to put their knowledge to use in a real-world scenario. One of the goals of this project is to help youth apply the concept of transfer which is taking knowledge and applying it to a different context than from where they learned it. (Cook & Klipfel, 2015, p. 34).

The three STEM projects will be creating a video game, engineering a park design, and building ham radios. The first project will focus on technology by improving coding and programming skills to build a video game. A computer programmer, high school technology teacher, and school/public librarians will be involved with implementing this project. The guest lecture will be provided by a professional computer programmer from Liberty. Teens will enter the National Stem Video Game Challenge (n.d.): Games for Change contest to build a video game that benefits their community (para. 5). The next project will be to engineer a park design for Liberty's Parks and Recreation Department. This project will include help from a local high school science teacher, an engineering professional, a community parks and rec worker and the librarians. The guest lecture will be provided one by of Liberty's professional engineers. One of the student's designs will be chosen and announced as Liberty's newest park space in September at Liberty's Fall Festival event. The final project will consist of building a ham radio and learning the basics of ham radio operation. The goal of this project is to have the teens earn their ham radio license and participate in the yearly Liberty Hospital Half marathon and 5K race by volunteering to help with race day ham radio communications. Each of these projects will build STEM literacy skills and improve academic performance by application of STEM skills.

STEM: Projects with Professionals Grant Timeline:

May 2019:	Grant begins May 1, 2019, request first payment Contact local professionals, teachers, and volunteers Obtain professionals for guest lectures, schedule computer programmer Meet each week with professionals, teachers, volunteers and staff Procure transportation through busses from high school to library Order supplies for first and second project, disburse grant funds Promote events through library, school and professional channels Sign-ups for teens online, through school, and at the library
June 2019:	Begin first project on June 7, 2019

	Continue to promote event and sign-up teens for remaining projects Continue to hold one meeting per month to discuss project Contact media outlets for coverage of program
July 2019:	Continue to promote event and sign-up teens for remaining projects Hold one meeting per month to discuss project Finalize lecture time with engineering professional Conclude first project and evaluate with survey and feedback
August 2019:	Continue to promote event and sign-up teens for remaining projects Meet with school district for promotion and coverage of events Hold one meeting per month to discuss project Begin second project on August 2, 2019 Prepare and send first interim report, request second payment
September 2019:	Continue to promote event and sign-up teens for remaining project Hold one meeting per month to discuss project Order supplies, pay for transportation and professional lectures Finalize timeline with ham radio operator Conclude second project and evaluate with survey and feedback Announce winner park design at the Liberty Fall Festival
October 2019:	Continue to promote event Hold one meeting per month to discuss project Begin final project on October 4, 2019.
November 2019:	Hold one meeting per month to discuss project Final contact with media to report on projects Conclude third project and evaluate with survey and feedback Record teen ham radio volunteer info to help with Liberty's race Invite teen feedback and ideas for future collaborative projects
December 2019:	Meet with professionals, teachers, and librarians to evaluate series Prepare second interim report
January-April 2020:	Collect stats, data, financial records and evaluate program Interview professionals, teachers, and students about program Begin preparing final report.
May 2019:	Finish final report and send to State Library Request final payment and disburse funds End of grant period

1: Partnerships

A key requirement to the success of this program will be securing the collaborative help of local professionals, teachers, and volunteers to help oversee and guide the projects. Their

input will be invaluable to the library in structuring the programs to strengthen the STEM literacy skills and build on those skills. The library will need to purchase supplies to improve computer software to be compatible with video game programming needs, to help build park models and to build ham radios. Also, teens will be encouraged to bring personal computers or school issued computers to work on the video games. The library will work with the school district to be able to improve access by making library logins compatible with school logins as they did in the Independence and North Kansas City school districts (MCPL, 2018, p. 9). The library will appoint a staff worker to be the project lead. These professional and community partnerships will help teens to complete the projects to improve the community.

2: Project Promotion

To promote this project to teens, the library will work with its marketing team to develop advertising in the forms of posters, social media campaigns, ads for school and library websites and through sign-ups. The library will work with the school district by emailing parents and sending fliers through school distribution methods. The library will provide on online sign-up form that can be used to sign up in school science, technology, and math classes, at the school media center, at the library or online. The library will work with high school STEM teachers to encourage underserved students and especially girls to sign up for the projects. The library will work with local media channels for promotion. The library will have both male and female professionals to work on the projects with the students. The library will ask the high school teachers to find teen sponsors to help promote and ignite excitement about the project with their peers. The library will also record the guest lectures and project details making them available on the library and school website for those teens who are unable to attend and allow them to engage with the projects virtually.

3: Evaluation

The library will keep the mandatory attendance and circulation statistics as well as have the participants fill out the required IMLS survey at the conclusion of each project. Statistics will be kept on library and staff hours, computer equipment hours and programs used for projects, and a record of projects created. The library will record the guest lectures and photos, both of which will be disseminated through social media. A suggestion box will be available both a physical and a virtual box for participants to give feedback. At the conclusion of the projects, the library will interview the professionals, educators and students to help evaluate the success of the program. We will also collect ideas and suggestions for future projects.

4: Sustainability

To sustain this project, we will continue to foster collaborative relationships with professionals, educators, and teens and to utilize their talents to improve our community. We will seek ideas for new projects especially from the youth participants and find means to continue to fund this program. The Spotlight on Literacy grant will help Liberty's youth form collaborative relationships with STEM professionals, improve academic performance in STEM education, explore STEM careers, and engage youth in library STEM programs and practical projects that encourage lifelong literacy and learning.

References:

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Appendix A: IMLS Survey:

Project Program Survey

1. Did your family sign up to receive library cards due to this program?

   _____ Yes _____ No _____ We already had a library card

2. How did you learn about this program? Check all that apply:

   _____ At school _____ At the library _____ On the library's website

   _____ Flyer _____ Word of mouth _____ On the library's Facebook page

   Other source (please specify): _____

3. As a result of participating in this program, I/We...

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Learned something new					
Seem confident in what I learned					
Am likely to use what I learned					
Am likely to participate in similar library activities					
Am likely to use other library services and resources					

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4. How can we improve the program?

This project is supported by the Institute of Museum and Library Services under the provisions of the Library Services and Technology Act as administered by the Missouri State Library, a division of the Office of the Secretary of State.