

# FACT SHEET

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## SCIENCE IS EVERYWHERE: Supporting Science, Technology, Engineering & Math (STEM) Programs in Libraries

### BACKGROUND

An explosion of after-school programs that emphasize academic support services is taking place in settings such as Boys and Girls clubs, YMCA/YWCA sites as well as in public libraries. These programs have a positive impact on youth development by enabling students to be involved in project-based learning activities frequently missing from traditional school programs. Programs designed to meet our country's future needs must begin in communities where young children are introduced to a range of opportunities that promote the next generation of engineers and technologists. Early exposure to exciting career choices could also expand the number of women, minorities and low-income students entering STEM professions. Library programs that support the importance of science and technology can help encourage an interest in these very important content areas.

Public or school librarians working with a science educator as well as local business or industry can offer programs and materials that stimulate creativity and promote innovation. Students can take an early look at "frontier occupations" such as alternative energy, green transportation, biotechnology, nanotechnology, robotics or aquaculture. Library programs can offer materials that help improve non-fiction reading as well as providing a place to explore hands-on STEM activities outside the classroom in a setting that is both fun as well as informative.

In 2009-2010, the MBLC funded a successful two-year grant project at the Nevins Memorial Library in Methuen, MA. Kathy Moran-Wallace, the children's librarian, developed a variety of programs on STEM topics that were presented to a target audience of 4<sup>th</sup> to 6<sup>th</sup> graders. An outcome of this project was the development of a training manual called *Science Quest* that may now serve as a guide for other libraries across the state.

In addition to choosing from a series of programs presented with support from a locally selected Science Educator, the library may purchase and/or develop a selection of Kits such as the K'Nex models <http://www.knexusergroup.org.uk/acatalog/knex-challenges-traditional.html>. Funds may be used to increase the collection of print and non-print materials that reflect STEM topics. The project may include one or more field trips to local museums, planetariums or institutes such as the Christa McAullife Center at Framingham State University. Family programs featuring speakers presenting on relevant STEM topics may also be offered to the wider community as part of this project.

### MASSACHUSETTS LONG RANGE PROGRAM GOAL/OBJECTIVE

Goal 4: Massachusetts children and young adults will have access to public and school libraries that are active partners in providing resources and learning opportunities that foster literacy from birth through the teen years."

## PROGRAM DESCRIPTION

Public and school libraries will be selected to receive grants of \$7,500 to plan and implement a project using the *Science Quest* manual and other material developed through the Nevins Library STEM project. Grant funds may be used to support a limited number of staff hours as well as supporting selected hours for a science educator to work on the project.

Components of the project are required:

- Agreement to utilize the *Science Quest* materials and to participate in a training session to be held in October.
- Agreement to contract with a science educator who will work with the youth services librarian to offer a series of approximately eight hands-on science programs for 3-6<sup>th</sup> graders throughout the year.
- A formal agreement between the public library and local school or school and public library to work together on this project. These libraries should also look for support from museums, local businesses, industry (if applicable) and other agencies to promote improved STEM learning.
- Agreement to publicize the program using print, non-print and web resources.
- Agreement to participate in evaluation of the STEM initiative to determine the impact of the program.

## ELIGIBILITY

Public and school libraries that meet standard eligibility requirements for Direct Grant programs are eligible to apply.

Libraries must have identified an interest in supporting educational goals for elementary aged children (Grades 3-6)

## INTERESTED?

Applicants must submit a **Letter of Intent** form with the “Science is Everywhere (STEM)” option check off under **TYPE**. If you need more information about this program call, Shelley Quezada at the MBLC 1 800-952-7404 ext. 235 or email [shelley.quezada@state.ma.us](mailto:shelley.quezada@state.ma.us).