

Greater Boston East Pipeline Network

The **Greater Boston East Pipeline Network** (GBEast) is a partnership of higher education institutions, school districts and individual schools, non-profit organizations, museums, workforce development groups and technology networks. These network partners are committed to developing a sustainable multisector network dedicated to working collaboratively to support projects that strengthen and expand STEM program offerings in the Boston East region; increase the number of Massachusetts students who participate in programs that support STEM careers; and increase the number of qualified STEM educators. The Network is committed to increasing communication across grade levels, disciplines, programs and institutions, and to replicating successful models across the region.

In the spirit of collaboration, the Network is co-facilitated by a representative from Northeastern University and from Boston Public Schools. The work of the Network is conducted through working teams with lead facilitators whose principle role is that of convener in guiding the Network to accomplish its goals.

Goals of the GBEast Network

- To create a true pipeline that transports students successfully from kindergarten to college graduation (K-16) to employment in fields related to science, technology, engineering and mathematics using the coordinated expertise of Network members.
- To strengthen existing programs and collaborations and developing new pathways among its partnering organizations.
- To increase the number of students and teachers who participate in STEM programs.
- To improve and expand educational offerings available in schools, particularly for minority and female students.

GBEAST SERVICE AREA

Arlington	Milton
Belmont	Needham
Boston	Newton
Braintree	Norwell
Brookline	Quincy
Burlington	Randolph
Cambridge	Revere
Chelsea	Rockland
Cohasset	Scituate
Everett	Somerville
Hingham	Stoneham
Holbrook	Wakefield
Hull	Waltham
Lexington	Watertown
Malden	Weymouth
Medford	Wilmington
Melrose	Winthrop

Membership has its advantages.

We invite educators, administrators, schools districts, educational institutions, industrial leaders, and others interested in STEM education to become members. Joining the GBEast Pipeline Network will give you

- timely notification of programs, initiatives and opportunities in the GBEast region
- an avenue to announce your program, initiative and opportunities to the GBEast community
- an opportunity to have your voice be heard on issues, concerns and ideas related to STEM education.

Membership in the GBEast Pipeline Network can be as an individual or an institution. Institutional members require a letter of support from an authorized institutional official. If there are multiple individual members from an institution, the Network may suggest securing an institutional letter of support.

You and/or your institution can join the GBEast Network by completing the membership form at <http://www.masspipeline-east.neu.edu>

List your project on the GBEast Pipeline Network website.

It is our goal to provide a central location for students, parents, teachers, and others to easily find information about and links to STEM programs, initiatives and opportunities in the GBEast region and beyond. Instructions on how to submit your project information can be found on our website (<http://www.masspipeline-east.neu.edu>).



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GBEast Funded Projects - 2004-05

In our initial year of operation, three projects were selected to receive funding via the Massachusetts Board of Higher Education:

MassPEP's Discovery Lab

MassPEP's Discovery Lab is a year-round, after school and summer program designed to provide elementary and middle school students with hands-on experiences via web-based projects and activities. The program stresses problem-solving, enhances critical thinking skills and reading comprehension, while building students' confidence and self-esteem. Massachusetts Pre-Engineering Program (MassPEP, Inc.) was founded in 1979 to identify, motivate, and prepare students to pursue careers in science, technology, engineering, and math. While its programs are open to all students, MassPEP focuses its efforts on increasing the number of underserved, minority and female students who participate and succeed in science, math, engineering, and technology disciplines.

Pipeline funding will introduce 30 minority and female students to the practical applications of math and science and will ensure that students stay on target and develop the academic and personal skills needed for success. This will increase the number of African American, Hispanic and female students who are academically prepared to take advanced science and mathematics courses. A total of 30 students will participate, 15 each session. Each session meets after school 2 days each week. Participating schools will include Quincy Dickerson, Nathan Hale, David Ellis, and others in Roxbury and Mattapan.

The Discovery Lab gives its participants exposure to STEM careers and other programs provided by network members. The Discovery Lab experience is the introduction to a consortium of programs that will assist and help students in their academic careers. The Lab is currently working with the Massachusetts Housing Division to create new labs in Roxbury and Mattapan.

Northeastern's Boston Summer Advanced Math

Now in its ninth year, Northeastern's Boston Summer Advanced Math prepares underserved urban high school students for their calculus course in their senior year in high school, and links rising seniors with one-on-one counseling to prepare for college. Reform precalculus prepares students for calculus in their high schools, and for college.

Pipeline funding will reach one section of twenty-five BPS rising seniors for six weeks in the summer. Each student is urged to utilize the services of The Bottom Line for individual counseling in preparing for college during the following year. Students who have completed the program often return as Mentors, completing the circle.

Boston Summer Advanced Math is a model for urban education, especially in the way it deals with the urban population. It is connected to college, with college mentors (many of whom will want to go into teaching), and it helps supply some of the social savvy needed for college along with the math, which is all important as an indicator of future college success.

Boston Children's Museum's Waterfront Learning Project

Now in its fourth year, the Boston Children's Museum's Waterfront Learning Project has engaged Boston teachers and multiple environmental organizations in the preparation and piloting of curricula, resources, and a website to make Boston Harbor a rich resource for STEM learning. Materials, trips, and training focusing on 15 fieldwork sites in and around Boston Harbor have been piloted with 119 Boston teachers and their classes. Curriculum is being finalized based on revisions suggested in field testing. STEM skills include inquiry, life sciences, earth science, physical sciences, and technology/engineering that are identified in each trip guide developed by the project.

Pipeline funding will provide 750 students from Boston Public Schools with access to fieldwork experiences that are fully integrated into the elementary curriculum and will train and support 30 new Boston teachers to guide fieldwork experiences at Harbor sites and implement pre and post Harbor walk trip activities in their classrooms. Boston Children's Museum will work with Boston Public Schools Science Department to plan workshops for 30 elementary teachers, to be delivered collaboratively with teacher leaders who developed the curriculum. Museum and BPS teachers will finalize the Waterfront Learning website and produce CD-ROMS containing curricula and background information. 30 classes will take trips to any of 15 sites along and in Boston Harbor, and follow up STEM learning with classroom activities.

Participation in the GBEast Pipeline Network will be a first step in disseminating the project to other school districts. Because teachers helped to create the curriculum, materials, website, and training, and these have been so extensively piloted, the likelihood of successful transferability is high.

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