

Eastern Area

***SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS
EDUCATION AND CAREER READINESS INITIATIVE***

WEBINAR #2

December 8, 2011

S.T.E.M. Umbrella Program Model

Building Mathematics Skills Through Drills, Competitions, and Computer Games.

National Priority:

*Align and Implement National's Strategic Plan for Delivering and
Sustaining Transformational Programs Throughout the Eastern Area.*



AGENDA

- Introductions
- National S.T.E.M. Cascading Goal #5
- S.T.E.M. Mentoring Model
- Service Delivery Model
- EA S.T.E.M. Toolkit
- Next Steps
- Q & A

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WHAT IS S.T.E.M. EDUCATION?

S.T.E.M. Education is a nationally endorsed initiative designed to improve the participation and performance of America's students in science, technology, engineering and mathematics (S.T.E.M.). When implemented, our ability to compete in a global marketplace is enhanced.



Eastern Area S.T.E.M. Mission Statement

We believe that mathematics is the gateway to success in all science, technology and engineering based fields. The idea of promoting mathematics achievement can open doors to all S.T.E.M. careers.

The committee will work to provide S.T.E.M. career-readiness resources and partnerships and assist chapters in their efforts to raise the level of S.T.E.M. achievement in their local areas.

NATIONAL S.T.E.M. CASCADING GOALS

- Deliver and Sustain Transformational Programs
- Enhanced Member Services and Engagement
- Organizational Assessment and Alignment
- Promote Links Brand
- **Leadership Development**



LEADERSHIP DEVELOPMENT

- GOAL 1: Increase effective leadership as measured annually against established criteria.
- GOAL 2: Increase diversification of candidate pool to ensure intergenerational leadership succession by 2014.
- GOAL 3: Increase the number of members 45 years and younger that hold leadership positions at the National, Area, and Chapter levels by 10%.

EA S.T.E.M. S.M.A.R.T. GOAL

By fourth quarter of 2012, implement a knowledge-transfer model that will enable continuity of resources and support for chapters' S.T.E.M. programming efforts.

S.T.E.M. UMBRELLA PROGRAM MODEL

CompuKids HARBOR CITY CHAPTER BALTIMORE, MD

Program Purpose: To increase math proficiency of inner-city students.

PROGRAM OVERVIEW

- Program planned by Services to Youth, but included all Program Facets.
- Primary focus of program was mathematics with some reading.
- Target audience for program was thirty 3rd, 4th and 5th graders.
- A computer lab was created using school computers.
- Program met monthly on the third Saturday from 8:30 am - 12 pm.
- Each Facet sponsored at least one Saturday activity and field trip.
- Two Sherman Scholars were hired from University of Maryland Baltimore County (UMBC) to conduct computer labs.
- Program implemented successfully for 6 years.



S.T.E.M. UMBRELLA PROGRAM MODEL

CompuKids

(Continued)

HARBOR CITY CHAPTER

BALTIMORE, MD

PROGRAM ELEMENTS

- Program began with hot breakfast; snacks were provided later.
- Math Workshop held for 45 minutes---paper drills, flash cards, competitions.
- Computer Lab held for 1.25 hours -- learned about computer, played games.
- Christmas and End of Year Parties held - significant gifts provided.
- Several families received Thanksgiving baskets.
- Students received stickers for achievement and shopped with stickers at end.
- Parents learned about state testing requirements.
- Folders were kept for each participant - documenting progress.

EA Toolkit - S.T.E.M. Initiative

- **S.T.E.M Webinar Presentations**

S.T.E.M. Webinar #1 Final.ppt

- **Service Delivery Models**

Harbor City Chapter - **CompuKids** Model

Portsmouth Chapter - **Mathematical Sprint** Model

- **S.T.E.M. Programs**

www.nap.edu/catalog.php?record_id=13158 (Successful K-12 STEM Education: Identifying Effective Approaches in Science, Technology, Engineering, and Mathematics.htm)

<http://www.stemconnector.org>

- **S.T.E.M. Funding Agencies**

www.stemgrants.com

www.nasa.gov/offices/education/programs/national/summer/home/

<http://www.afterschoolalliance.org/>

EA Toolkit - S.T.E.M. Initiative

- **Websites**

[EASTERN AREA WEBSITE](http://easternarealinks.org/programs-committees/initiatives/stem)

<http://easternarealinks.org/programs-committees/initiatives/stem>

Career Readiness

<http://stemcareer.com/nasa-education-materials/>

*Recommended viewing: Media Tutorials – **STEM and You Presentation***

WH Women in STEM Nov2011-Dr. Blank.pdf (2011 White House Briefing – Dr. Rebecca M. Blank, Acting Deputy Secretary of Commerce and Under Secretary for Economic Affairs)

Mathematics and Science Student Tutorials

www.khanacademy.org

Mentorship Ideas

<http://www.MentorNet.net/>

- **Services to Youth Toolkit** (Available 2012)



LET'S GET STARTED

- Explore Partnerships and Collaborations
- Define Program - STY or Umbrella, New or Expand Existing
- Remember “S.M.A.R.T.” Goals (See S.T.E.M. Webinar #1)
- Format Plans as a Service Delivery Model (SDM)
- Define and Use Measurable Indicators Over Period of Time
- Review EA Website for Ideas and Tools
(<http://easternarealinks.org/programs-committees/initiatives/stem>)
- Remember Most Funding Agencies Require Documentation of Successful Programs with Metrics
- Plan Now to Apply for the FIRST S.T.E.M. AWARD
- **START NOW!**

NEXT STEPS

WEBINAR #3 - January 26, 2012 @ 8 pm

- National Priority #6 – Fiscal Responsibility
- NASA Summer of Innovation Mini-Grant and Other Funding Opportunities
- Eastern Area S.T.E.M. Toolkit Update
- S.T.E.M. Mentoring Model #3
- Partnerships, Sponsorships and Collaborations