THE YOUTH INSPIRED CHALLENGE

Inspiring youth through hands-on STEM experiences
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Introduction: What is the Youth Inspired Challenge?

The Youth Inspired Challenge (YIC) is an initiative launched by the Association of Science-Technology Centers (ASTC), designed to expand the impact of science centers and museums to assist our youth in becoming the enthusiastic and creative thinkers we desire for the 21st century workforce. Launched in September 2010, this innovative program was inspired by President Obama and other world leaders’ commitment to strengthening the science, technology, engineering, and mathematics (STEM) skills of today’s youth. Our goal is to engage youth in a minimum of 2 million hours of science enrichment over a three-year period, through STEM-centered youth development programs. With the help of ASTC member institutions across the globe, we are well on our way to completing the Challenge!

In addition to measuring the impact and reach of youth programs offered by science centers and museums worldwide, the Challenge seeks to advance the development of participating institutions’ programs and to help ASTC members pioneer fresh and innovative curriculums that will help nurture a global community of practice and youth programming. This component of the Challenge will utilize webinars, dissemination of models, strategy sharing, and funding opportunities for our participating YIC members.

Year One: The State of the Challenge

In its first year, more than 100 science centers and museums in 7 countries and 37 U.S. states joined the Challenge. During this first year, participating institutions engaged nearly 14,000 youth in more than 700,000 hours of science enrichment activities – more than halfway toward achieving the Challenge’s impact goals. Individual programs at participating institutions serve an average of 149 students in 51 hours of STEM learning per year – the equivalent of nearly two weeks of full school-day instruction.
The three most popular program types offered by Youth Inspired organizations include afterschool science programs, youth explainers/interpreters, and enrichment classes. Many YIC participants offer a range of these programs, with the most frequent combinations being youth explainers/interpreters, camps, and afterschool programs. Afterschool programs, clubs, and camps provide great educational and entertaining opportunities for students of all ages and cover nearly every aspect of science, from hands-on chemistry labs to exploring the starry skies at a planetarium. Budding scientists were even invited to participate in robotics competitions and bridge building races!

Other unique activities offered by YIC participants included scouting programs, space weeks, STEM research, family science programs, summer camp aides, outreach programs, Youth-led service groups, and even an IMAX visitor experience.

Each institution has the freedom to implement programs that best fit their expertise and the needs of the youth in the communities they serve.
Section II: How are YIC Members helping students succeed?

Youth Development Components of Youth Inspired Programs

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career Planning</td>
<td>39%</td>
</tr>
<tr>
<td>Field/Lab Research</td>
<td>23%</td>
</tr>
<tr>
<td>Exhibit Development</td>
<td>15%</td>
</tr>
<tr>
<td>Communication skill-building</td>
<td>57%</td>
</tr>
<tr>
<td>Cross-age teaching</td>
<td>41%</td>
</tr>
<tr>
<td>Peer Mentoring</td>
<td>31%</td>
</tr>
<tr>
<td>Youth Leadership Development</td>
<td>39%</td>
</tr>
<tr>
<td>Contact with STEM Professionals</td>
<td>56%</td>
</tr>
<tr>
<td>College Visits</td>
<td>19%</td>
</tr>
<tr>
<td>None</td>
<td>2%</td>
</tr>
</tbody>
</table>

Youth Inspired organizations are committed to ensuring that their participants gain skills, expertise, and guidance from professionals in STEM fields. Targeting youth from ages 10-19, these programs seek to assist students during these critical periods of youth and academic development, and provide them role models whom they can look up to. Studies show that this age range touches four critical moments in youth development and academic progress: STEM achievement in middle school, STEM matriculation and achievement in high school, high school completion, and pursuit of STEM studies in higher education.

To achieve this youth and academic advancement, our members have implemented many programs geared towards professional development. The three most popular programs include communication skill-building, contact with STEM professionals, and cross-age teaching. Youth leadership development and career planning tied for fourth place. As with other programming, many institutions used multiple professional development programs. The majority of our institutions offered at least five professional development components into their programs, reinforcing the value that science centers place in guaranteeing youth’s STEM education and passions continue on after high school.
Section III: Who supports *Youth Inspired* Programs?

While each institution’s funding stream is different, in general, programs are funded through tuition fees, corporate sponsorship, state and federal grants, or private foundation funds. The local impact of these programs is such that the majority of funding comes from local funding sources, rather than those on the governmental or national level.

A more specific breakdown shows that primarily *Challenge* participants configure their general operating budgets to support programs. However, foundation grants and corporate sponsorship/donations also played an important part in funding.

Many institutions formed partnerships with local school districts and colleges, local businesses, and other museums and centers. The most common partnerships were with:

- local companies and businesses
- local/municipal government
- local organizations, associations, foundations, and agencies
- local school districts and boards
- local universities
- hospitals
- individuals, parents, teachers
Why Youth Inspired Matters and Why You Should Get Involved!

Wondering why your institution should join the Challenge? Our programs focus on science learning as a foundation for building self-esteem, developing problem-solving and workplace skills, and increasing interpersonal communication abilities. The Challenge not only engages youth in fun, brain-stimulating accomplishments, but it presents opportunities for youth to transition from participants to peer mentors who help facilitate the service-learning activities, or even to explainers who facilitate hands-on STEM learning for the general public visiting the science center!

Challenge development programs in science centers and museums go well beyond the annual field trip to the science center or the special visit to the school by science center staff. They are intensive, modern programs that engage students as early as sixth grade in cumulative STEM learning experiences throughout the secondary years and continue even into higher education. Youth are challenged to explore STEM concepts in fun, challenging, and nurturing environments through hands-on methods that are designed to encourage both the development of critical thinking skills and the self-esteem necessary for success in academics and the workplace. Many programs also offer opportunities to explore future careers through interaction with local STEM professional mentors, trips to corporate offices, and pre-college visits.

Supported by science center staff that are highly skilled in both youth development and STEM education practices, these programs are vital links between parents, local school districts, and community organizations in supporting academic excellence and STEM skills in the youth they serve. We believe that inspiring our youth to pursue their education and dreams is truly invaluable, so please join us the Youth Inspired Challenge today!
Membership and Contact Information

How to get involved

Maximum participation of ASTC members is essential for meeting the goals of the Challenge. ASTC member institutions that offer programs meeting ANY of the following criteria can join:

- Programs should serve youth ages 10–19.
- Programs must provide at least six hours of hands-on STEM learning and/or skills development.
- STEM professionals or educators should be involved as mentors.
- Programs should focus on encouraging participants to pursue STEM studies and/or careers.
- Limit student-to-staff ratio to 25:1 to maximize program impact

The Youth Inspired Challenge places a particular priority on programs that target youth from backgrounds that are underrepresented in STEM studies and professions, including:

- girls,
- youth from racial/ethnic minority backgrounds,
- people with disabilities, and
- youth from socioeconomically strained communities.

Questions?

Contact Laura Huerta Migus, ASTC’s Director of Equity & Diversity, at (202) 783-7200 x139.

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Youth Inspired Member Directory

Adventure Science Center, Nashville, TN

Arizona Science Center, Phoenix, AZ

Bermuda Underwater Exploration Institute (BUEI), Pembroke, Bermuda

Bruce Museum, Greenwich, CT

California Academy of Sciences, San Francisco, CA

Cape Fear Museum of History & Science, Wilmington, NC

Carnegie Science Center, Pittsburgh, PA

Catawba Science Center, Hickory, NC

Chabot Space & Science Center, Oakland, CA

Children's Science Explorium, Boca Raton, FL

Columbia Memorial Space Center, Downey, CA

Connecticut Science Center, Hartford, CT

COSI, Columbus, OH

Creative Discovery Museum, Chattanooga, TN

CuriOdyssey, San Mateo, CA

Discovery Center Museum, Rockford, IL

Discovery Center of Springfield, Inc., Springfield, MO

Discovery Museum and Planetarium, Bridgeport, CT

Don Harrington Discovery Center, Amarillo, TX

Duluth Children's Museum, Duluth, MN

Durham Science Discovery Center, Omaha, NE

EAA Airventure Museum, Oshkosh, WI
The Youth Inspired Challenge 2011

ECHO Lake Aquarium and Science Center, Burlington, VT

Edgerton Explorit Center, Aurora, NE

EdVenture Children's Museum, Columbia, SC

Emerald Coast Science Center, Fort Walton Beach, FL

Exploration Place, Inc., Wichita, KS

Fairbanks Museum and Planetarium, St. Johnsbury, VT

Fleischmann Planetarium and Science Center, Reno, NV

Great Lakes Science Center, Cleveland, OH

Gujarat Council of Science City, Ahmedabad, India

Information Age Learning Center, Wall, NJ

Lawrence Hall of Science, Berkeley, CA

Lawrence Hall of Science, Berkeley, CA

Liberty Science Center, Jersey City, NJ

Long Island Children's Museum, Garden City, NY

Louisville Science Center, Louisville, KY

Louisville Science Center, Louisville, KY

MadaTech, Israel National Museum of Science, Haifa, Israel

Maine Discovery Museum, Bangor, ME

Maryland Science Center, Baltimore, MD

McAuliffe-Shepard Discovery Center, Concord, NH

McWane Science Center, Birmingham, AL

Miami Science Museum, Coral Gables, FL

Museum of Discovery and Science, Fort Lauderdale, FL
Museum of Life and Science, Durham, NC

Museum of Science, Boston, MA

Museum of Science and Industry, Tampa, FL

National Museum of Natural History, Smithsonian Institution, Washington, DC

New Jersey Academy for Aquatic Sciences, Camden, NJ

New Mexico Museum of Natural History and Science, Albuquerque, NM

New York Hall of Science, Queens, NY

North Museum of Natural History and Science, Lancaster, PA

Ontario Science Centre, Toronto, ON, CANADA

Oregon Museum of Science and Industry, Portland, OR

Orlando Science Center, Orlando, FL

Pacific Science Center, Seattle, WA

Peggy Notebaert Nature Museum, Chicago, IL

Putnam Museum and IMAX Theatre, Davenport, IA

Reading Public Museum, Reading, PA

Reuben H. Fleet Science Center, San Diego, CA

Santa Barbara Museum of Natural History, Santa Barbara, CA

Science Central, Fort Wayne, IN

Science Factory Children's Museum and Exploration Dome, Eugene, OR

Science Museum of Virginia, Richmond, VA

Science Museum Oklahoma, Oklahoma City, OK

Sciencenter, Ithaca, NY

ScienceWorks Hands-On Museum, Ashland, OR
Sci-Port: Louisiana's Science Center, Shreveport, LA
Sci-Quest, the North Alabama Science Center, Huntsville, AL
Sci-Tech Center of Northern New York, Watertown, NY
SciWorks, The Science Center and Environmental Park of Forsyth County, Winston-Salem, NC
South Dakota Discovery Center & Aquarium, Pierre, SD
Staten Island Children's Museum, Staten Island, NY
Tamilnadu Science and Technology Centre, Tamilnadu, India
Technopolis, the Flemish Science Centre, Mechelen, Belgium
The Academy of Natural Sciences, Philadelphia, PA
The Adler Planetarium & Astronomy Museum, Chicago, IL
The Children's Museum of Science and Technology, Troy, NY
The Exploratorium, San Francisco, CA
The Franklin Institute, Philadelphia, PA
The Health Adventure, Inc., Asheville, NC
The Leonardo, Salt Lake City, UT
Utah Museum of Natural History, Salt Lake City, UT
Virginia Living Museum, Newport News, VA
Virginia Museum of Natural History, Martinsville, VA
Yale Peabody Museum of Natural History, New Haven, CT