



# AMERICAN MUSEUM OF NATURAL HISTORY

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**CITYWIDE SCIENCE EXPO IN MILSTEIN HALL OF OCEAN LIFE  
AT AMERICAN MUSEUM OF NATURAL HISTORY  
MARKS END OF SUCCESSFUL SEVENTH YEAR FOR  
URBAN ADVANTAGE MIDDLE SCHOOL SCIENCE INITIATIVE**

**TEACHERS, STUDENTS, INSTITUTIONS CELEBRATE PIONEERING PROGRAM  
TO IMPROVE SCIENCE EDUCATION FOR MIDDLE SCHOOL STUDENTS**

On Sunday, June 12, a major science expo at the American Museum of Natural History will showcase the research projects of more than 800 New York City middle school students who participated in the successful seventh year of the citywide **Urban Advantage Middle School Science Initiative**, an extraordinary collaborative effort that connects students and teachers in one of the nation's largest public school systems with some of the finest science-based institutions in the country. Chancellor Dennis M. Walcott of the New York City Department of Education will join families, teachers, and members of the City Council as they gather to see **more than 300 science exit projects** presented by participating students.

Through a public-private partnership between the New York City Department of Education and a Museum-led consortium of eight institutions that also includes the **New York Hall of Science, the Bronx Zoo, the New York Aquarium, the New York Botanical Garden, the Brooklyn Botanical Garden, the Queens Botanical Garden, and the Staten Island Zoo**, Urban Advantage provides a comprehensive framework for teaching and learning that is grounded in encounters with authentic science and that emphasizes evidence-based inquiry.

"This event showcases the inspiring accomplishments of these talented students and highlights the effectiveness of the Urban Advantage program," said Ellen V. Futter, President of the American Museum of Natural History. "Science education is fundamental to fostering the spirit of innovation that fuels our country's competitiveness in the global arena, and by marshalling the extensive resources of science-rich cultural institutions and building on a vision shared with the City

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of New York and the Department of Education, Urban Advantage is empowering and improving science teaching and learning in New York.”

The program has expanded dramatically since it was introduced in 2004. This year, it includes **371 teachers and 37,822 students at 156 schools in all five boroughs** of New York City – fully one-third of the city’s public middle schools. Research that analyzed assessments of student research projects and student performance on standardized tests shows that students at Urban Advantage schools perform better than students in non-Urban Advantage schools. The pioneering program is set to grow nationally with Urban Advantage pilot programs rolling out in Denver and Miami public school systems. Additionally, Boston is set to launch a small-scale “Boston Advantage.”

The need for improving science literacy among students preparing for high school is an urgent one. According to the 2009 Carnegie Corporation of New York–Institute for Advanced Study Commission on Mathematics and Science Education, too many American students fail to receive rigorous, motivating science and mathematics education or to achieve high levels of learning. One of the report’s major recommendations, building community assets into schools through intensive partnerships with math and science institutions, specifically credits the Urban Advantage Middle School Science Initiative with producing “significant learning gains in middle grades science.”

The **seventh annual Urban Advantage Science Expo** will be held on **Sunday, June 12, from 1 to 4 pm**, under the big blue whale in the Museum’s Milstein Hall of Ocean Life. The expo, which is open to the general public, will include more than **300 science exit projects** presented by over **800 middle school students**. Project topics reflect a wide range of subject areas in the life, Earth, and physical sciences that were investigated by students during their visits to the Urban Advantage partner institutions.

- **Bronx Schools exit project topics include:**
  - the effect of acid rain on pond chemistry
  - testing the water quality of the Bronx River
  - comparison of different types of sunscreen UV protection
- **Brooklyn Schools exit project topics include:**
  - the role of gender in choosing healthy foods
  - building a better wireless antenna
  - comparison of metamorphic rocks along the Hudson River
- **Staten Island Schools exit projects topics include:**
  - analyzing the levels of Vitamin C in fruits
  - the effect of species on the behavior of different bats
  - the effect of a monkey’s size on its grooming

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- **Manhattan Schools exit project topics include:**
  - designing the most efficient windmill blade
  - the effects of global warming on the annual number of hurricanes
  - the effect of the number of polar bears in an enclosure on their activity levels
- **Queens Schools exit projects topics include:**
  - testing lead levels in soil samples
  - the effect of different types of music on heart rates
  - powering a solar car with different colors of light

“Each year, New York City students gain valuable experience through the Urban Advantage Middle School Science Initiative,” said Council of the City of New York Speaker Christine C. Quinn. “When our city’s leading cultural institutions come together with the Department of Education, it only means success for our students. This program has laid a foundation for our students to grow from and will help them with the career paths that lie ahead.”

“It is so important to keep middle school students engaged in learning science and math, and I am grateful to our cultural partners for making the excitement of scientific experimentation accessible to thousands of public school students,” said Schools Chancellor Dennis Walcott. “The wonderful science projects on display today really show how the extraordinary partnership between the Urban Advantage Program and schools enhances science curriculum in a fun and enriching way.”

“The Urban Advantage cultural partners do extraordinary work with classroom teachers to make the excitement of scientific inquiry accessible for thousands of public school students from across the five boroughs each year,” said Cultural Affairs Commissioner Kate D. Levin. “The terrific projects on display today speak volumes about the success of this innovative public-private partnership, and the talent and ingenuity of our middle schoolers.”

“Brooklyn Botanic Garden salutes this year’s Urban Advantage students on the successful completion of their science-research projects,” said Scot Medbury, president of Brooklyn Botanic Garden (BBG). “BBG is a living museum noted for its educational programs, scientific research, and unparalleled beauty. Working together with our colleagues, we offer some of the very best educational opportunities to our community. Teachers and students who come to the Garden engage with BBG’s plant collections and make authentic observations and ask questions, essential elements in the teaching and learning of science. We are delighted to continue working with AMNH and the Department of Education on such an important, collaborative program – one that offers middle-school students more rigorous and diverse opportunities to meet their academic requirements.”

“The Wildlife Conservation Society (WCS), through its five New York City Living Institutions, uses the power of wildlife to connect people to wild nature and to motivate them to become environmentally active citizens,” said Steven E. Sanderson, president and chief executive officer of the Wildlife Conservation Society. “Through the partnership with the Urban Advantage Program, WCS has taught a new generation of public school teachers to use field trips and other out-of-school learning opportunities to improve science education in our middle schools. As a result, thousands of 8th grade students benefit from the opportunity to complete real-world field science projects at WCS’s Bronx Zoo and New York Aquarium that integrate the core science curriculum. We look forward to continued participation in this effective partnership between New York’s schools and cultural institutions.”

“The Urban Advantage Program connects hands-on teaching and research programs with young peoples’ curiosity,” said Gregory Long, president and chief executive officer of The New York Botanical Garden. “The students do real science. At the Garden, that means young people explore plant growth experiments, forest diversity, river water quality, plant evolution, genomics, airborne pollination, and dozens of other concepts in the Botanical Garden’s research laboratories and gardens, native areas, and in the classrooms of their schools. The City’s support for Urban Advantage marries many of the world’s finest research and cultural institutions with their neighborhood schools in an exciting, innovative program that makes a difference for young people in the Bronx and throughout the city.”

“Urban Advantage helps kids, parents, and teachers discover the abundance of world-class science resources in our city’s cultural institutions,” said Margaret Honey, president and chief executive officer of the New York Hall of Science. “This has tremendous impact on our education community and it encourages the participants to find new exciting ways to engage with science.”

“We continue to be impressed and amazed with the program and love our participation in it,” said Susan Lacerte, executive director of the Queens Botanical Garden. “It brings a smile to my face and joy to my heart to see teachers here at our 39-acre oasis, learning about plants and science. The Urban Advantage program, generously and wisely funded by the Council of the City of New York, is good for the students, good for the teachers, good for the parents, and good for New York.”

“The Staten Island Zoo is proud to continue its partnership in the Urban Advantage Program,” said Kenneth C. Mitchell, executive director of the Staten Island Zoological Society. “We are totally committed to this special program, which is in sync with our zoo’s educational mission,

enabling us to connect with students and teachers alike in a venue beyond the Staten Island community.”

**During its seventh year, Urban Advantage continued its multi-component implementation structure, which infuses science into the lives of students and families, their schools and teachers, school leaders, and communities. Major initiatives this year include:**

- Expanding the reach of the program into 6th grade to become a “whole-school” program in 57 schools, with a total of 8,000 6<sup>th</sup>-grade students. Over 120 UA teachers teach some, or only, 6th graders
- Expanding the depth of UA participation in schools by growing the number of UA teachers per school to almost three; 59 UA schools have more than three UA teachers
- Breakfast workshops for administrators attended by 300 school representatives
- Over **6,000 hours of teacher professional development** for new and continuing science teachers in the program
- Over **500 class field trips** to participating institutions involving over **15,000 students**
- Over **5,000 students and family members** visiting participating institutions on trips related to work on 8th grade exit projects
- Over **370 new and continuing teachers receiving support** to purchase basic lab supplies focused on the 8<sup>th</sup> grade exit projects
- **Three demonstration schools and 21 lead science teachers** located throughout the five boroughs to support professional development efforts and build capacity within the school system

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