



**Brooklyn Children's Museum
School Adventure Program
Critter Comebacks
Pre-visit and Post-visit Activities**

Dear Teacher,

We are excited about your upcoming visit to the Brooklyn Children's Museum, the world's first museum for children! We are looking forward to working with you and your students during your visit. The enclosed pre/post-visit materials are provided to help you prepare your students for participating in and getting the most out of the workshop. It includes learning concepts, vocabulary, discussion questions and activities that you can use before your introduction to the **Critter Comebacks** program. In addition, we have included post-visit activities that will help you to reinforce and extend the learning back in the classroom.

If you have any questions about your visit or these materials, please contact Group Reservations at (718) 735-4400, extension 118. We look forward to working with you.

Critter Comebacks

Wildlife is forced out of cities all the time, but with careful intervention, some species are starting to stage stunning comebacks in New York City. Flex your advocacy and citizenship skills as you learn to protect peregrine falcons and horseshoe crabs.

Meets the Following Standards:

Grade 4 Unit 1: (Whole Unit): What roles do plants and animals play in their environments?

Grade 5 Unit 4: LE 3.2a: Identify populations within a community that are in competition with one another for resources.

Grade 6 Unit 4: LE 7.1b, LE 3.2a, LE 7.1c,d, LE 7.2c, LE 7.2a-d, LE 7.1e, ICT 5.2: Factors affecting the population growth of organisms — Predator/prey relationships, Relationships among organisms: beneficial and harmful. Effects of environmental changes on humans and other populations.

During the program your students will:

1. Learn about peregrine falcons and horseshoe crabs' roles in New York ecosystems, and about environmental factors that have forced them to relocate
2. Discover animal adaptations through hands-on investigation and observation of live and fossilized horseshoe crabs
3. Create advocacy campaigns to protect these important species

Learning Components

1. Human beings can have a negative impact on the environments we live in, but we can also act to protect those environments to save local flora and fauna.
2. All animals need a safe space that provides all the nutrients and resources they require to survive
3. Horseshoe crabs and peregrine falcons have lived in New York for a long time, and we can make our urban environment more of a refuge for these important species

Vocabulary Words

adaptation: a change made over time to better live and thrive in one's environment

reproduce: to create a new generation of organisms of the same kind as the parent or parents.

resource: a naturally-occurring material of use or value, such as fresh water, sunlight, or mineral deposits.

Discussion Questions

- How have horseshoe crabs survived and changed over time?
- How do big cities impact the lives of horseshoe crabs and peregrine falcons?
- What can we do to protect horseshoe crabs in New York waterways?



Pre-Visit Activities

1. In the spring, many falcons nest on bridges and on window ledges of tall buildings, mimicking the cliff faces where they traditionally nest. Each spring, scientists and bird lovers set up video cameras with live streaming feeds showing the progress of the eggs. Find a camera and check in with the progress of the young family, charting the number of eggs and hatchlings. Find NYC falcon live streams [here](#).
2. Take a walk around the block surrounding your school and list the animal life you encounter. Look also for evidence of animal activity – scat, tracks, chewed bark or branches. Back in the classroom, review your list against a [list of animals native to New York](#). Assign one animal that used to live here to each child.

Have each student research the environmental requirements of their animal (what they eat, where they nest, what environmental factors they are susceptible to). Tell the story of New York city through the eyes of native animals. Build factories, bridges, ferry systems, add pollution, add wildlife refuges and have each student speak up for their animal. Discuss which factors might force their animal to relocate or adapt to the changing environment.

3. Start a class conversation about adaptations. How have we adapted to new conditions in our families? How do we adapt to changing environments when we visit family members in other countries or other climates? Have students interview family members or neighbors about how they had to adapt to a new country when they moved to New York or to the United States.

Extend the Learning

1. Contact the rangers at the Jamaica Bay Ecology Village to plan a class trip to Plumb Beach or the Jamaica Bay Wildlife Refuge for a beach cleanup. Bring garbage bags and latex gloves and have the students pick up litter to prepare for the May and June influx of breeding horseshoe crabs.

Jamaica Bay Education Day Programs

Free educational offerings for organized youth groups at the Jamaica Bay Unit are approximately 2 hours in length; group size is limited to 35 students. A 3 hour teacher workshop is required prior to class participation. Free standards-based ranger-guided or teacher-led programs are available by reservation. Contact the Ecology Village staff at 718-338-4306 for further information, or go to [Jamaica Bay Professional Development](#) for information about teacher workshops.

2. Have your class enter the “Horseshoe crabs and the arts” competition sponsored by the Ecological Research and Development Group. Students can submit one 8 ½” x 11” page of poetry, stories, or artwork inspired by horseshoe crabs. Submissions are due each year by April 15; winners are announced each year on June 1. Learn more and download an application form [here](#).



ADDITIONAL READINGS

For Teachers

Giron, Will. [*Biologists Studying NYC's Interesting Impact on Urban Wildlife Evolution | Inhabitat New York City*](#)

Brooklyn Children's Museum. *Urban Naturalists Teachers Guide*.

http://www.brooklynkids.org/attachments/UrbanNaturalist_FIN_HR.pdf

For Students

Victoria Crenson. *Horseshoe Crabs and Shorebirds*. Tarrytown, NY: Marshall Cavendish Studio, 2003.

Horowitz, Ruth. *Crab Moon*. Candlewick, 2000.

PORTABLE COLLECTION SUITCASES (Rented from BCM)

Urban Naturalist: Exploring the New York Environment

Grades K to 5

By examining a squirrel, a bird, insects, and leaves collected right here in Brooklyn, students learn how to look for evidence of nature in the big city. Case includes a teacher's guide, books, binoculars, and a birdsong identifier.

Fossils

Grades 3 to 5

What was the world like millions of years ago? With this case, students play paleontologist and examine a real dinosaur footprint, a piece of petrified wood, a trilobite, and other fossils. Case includes a teacher's guide, books, and a geologic time chart.

Rental fee: \$100.00 for two weeks. Please contact our Scheduling Secretary at (718) 735-4400, extension 118.