

Groundwork Hudson Valley

The Science Barge



Who Are We?

The Science Barge is a prototype sustainable urban farm developed by NY Sun Works and acquired by Groundwork Hudson Valley in October, 2008 to be operated as an environmental education center. It is the only fully functioning demonstration of renewable energy supporting sustainable food production in New York. It is now docked in downtown Yonkers just north of the Yonkers Pier.

What We Do

We provide unique educational opportunities aboard the Barge. Students come aboard to learn about sustainable energy, urban agriculture, and sustainability.



Program Overview

Groups

Up to 40, 1st-12th grade students

Public and private schools
Summer camps
Boy/Girl Scouts

Price

\$175-\$450

Dates

Mid-April-October

Our hours vary, call for more information

Scheduling

Call 914-375-2151 or
email
sciencebarga@groundwork
hv.org

What to Bring

Sunscreen, rain gear,
closed toe shoes, lunch if
eating on board

Weather

We run rain or shine; we
provide shelter & comfort
in our outdoor classroom

Programming

The Science Barge is comprised of a variety of educational stations, all designed to give students a well-rounded lesson on sustainability.

- Hydroponic systems
 - Nutrient Film Technique
 - Vertigrows
- Aquaponic system
- The Hudson River
- Solar panels and wind turbines
- Composting systems



Our Education Stations

The Greenhouse

The Barge's greenhouse is a living breathing example of sustainable urban agriculture. Students will learn about a variety of different grow systems that make agricultural possible without the use of soil, as well as gaining an understanding of why this is important in an urban setting. We have a variety of hydroponic systems, including one that utilizes NFT (Nutrient Film Technique) and two Vertigrows that save space by growing plants vertically. We grow leafy greens as well as fruit in the greenhouses.

Students will also encounter an aquaponic system, which makes use of fish and the nutrients they produce to the benefit of the plants.





The Hudson River

Students will be given a short introduction to the Hudson River, helped out by our stunning view of the river and the Palisades which border it.

Educators will discuss the unique environment created by the Hudson's brackish water, and explain what exactly a tidal river is.

Sustainable Energy

Students have the opportunity to check out our solar panels and wind turbines. These are responsible for powering the entire Barge, making us completely off the grid. Students will learn about how these alternative energies work, and gain an understanding of the importance of sustainable energy resources. Students will even be able to produce their own electricity in an activity. For older students, a more in-depth lesson on energy conservation may be provided.

The Joys of Compost

Part of sustainability is ensuring that as little waste is produced as possible. On the Barge, composting is an essential part of this process. We have two composters. One of these is a tumbler that takes advantage of heat and aerobic bacteria to break down waste while the other is called a vermicomposter. This utilizes red wiggler worms which can break down materials much faster. Students will learn about the life-cycle of organic

material and how nutrient-rich soil can be made from different waste materials. If students eat their lunches on the Barge, they will become part of our waste management system by disposing of their lunches in our compost or provided recycling bins during our Green Lunch Challenge.

