

Willows Away

The project was an immensely engaging way for students to be empowered in environmental remediation. Students learned and used scientific methods as an adjunct to what they saw as a way to make an impact in improving one small piece of their natural world.

Curriculum/State Standard

NYS Learning Standards 1,2,4,6,7
Science and Applied Technology
(available at nysed.gov)

Overview

Students identified an area of the Esopus Creek in Ulster County, NY, as being in danger of serious creek-side erosion. Willow plants were nurtured in the classroom for one month (measured and fertilized), and then students planted the willows along the creek to help stop the erosion.

Objectives

- Students will study local stream erosion: causes and prevention.
- Students will learn to nurture willow tree plants: watering, sunlight, soil & temperature needs for optimal growth.
- Students will apply principles of environmental restoration by planting willows along an eroded stream bank to help stop stream erosion.

Materials

Topographic maps of local quadrangle, garden area in classroom such as Grow Lab Mobil Garden, pots, soil, willow plants, rulers, balances, graduated cylinders, thermometers

Readiness Activity

Students visit a local stream looking for evidence of erosion. Research is done for students to understand the implications of stream bank loss.

Strategies/Activities

Teacher needs to interface with local environmental authority to identify a stream bank area in need of and eligible for remediation.

Students may visit that stream area, or one adjacent to school to identify erosion at work. (Streams may be one and the same; however, be sure you have permission to plant willows along the bank)

Students research the implications of stream bank loss.

Continued on the back...

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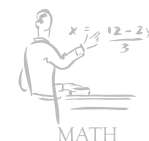
GRADE LEVEL



ARTS



LANGUAGE



MATH

Misc

MISCELLANEOUS



SCIENCE



HISTORY



SOCIAL STUDIES

3

MONTHS

\$700

TOTAL BUDGET



THIS WINNING LESSON PLAN WAS SUBMITTED BY:

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“Willows Away” project continued...

Students devise a plan for remediation (facilitated by the availability of willow plants).

Willow plants are potted by students and placed scientifically for growth.

Growth can be monitored by height, mass, color of leaves, evidence of new growth, and trophic response of plants.

Various experiments may be designed and executed, such as varying water, fertilizer, light etc,

With growth optimized, plants can be transplanted to the stream bank to help anchor soil

Be sure to notify anyone who may be mowing the stream bank of willow tree planting sites.

Culminating Activity

The final activity is the tree planting field trip, which can be combined with an end of year picnic, if appropriate.

Evaluation

Students kept journals of willow plant observations and experiments. Digital photography and PowerPoint are available for students to generate reports to be shared with the class. Long term evaluation will be the number and location of willow trees that survive.