Mini Environmental Education

River by river and stream by stream, Pre-K-12 environmental education projects are helping to raise public awareness about the health of streams, rivers, and the Chesapeake and Coastal Bays and about the steps that can be taken to restore and protect them. Through this program, the Trust seeks to increase student awareness and involvement in the restoration and protection of the Bay its local streams and rivers through increasing student access to programs that provide meaningful outdoor learning experiences.

250 students participated

2,400 sq. ft. of bank stabilized

1,800 pounds of trash removed

8,000 publications produced

50 brook trout raised and released

When Science Meets Art, It's Full STEAM Ahead

In this cross-curricular project, students acquired STEAM (Science, Technology, Engineering, Art and Math) skills while they completed a Meaningful Watershed Education Experience within the York River Watershed.

Well over 250 students were able to participate in the project. Students in AP Environmental and General Environmental Science, as well as Art 1, Marine Science and Biology were involved. Students began the school year learning about the Chesapeake Bay Watershed and its states and tributaries. Students were taught about the various types of pollutants and learned about the sources of these pollutants.

Students particularly focused on those pollutants that create dead zones- nitrates and phosphates, but also learned about sediment and toxics as well. Students then applied this knowledge when they went to Lake Anna State park and did water quality tests for nutrient pollution as well as bacteria sampling using the coliscan easy gels.

Throughout the entire year, students were taught various lessons by their Art teacher. These included lessons in how to use colored pencils to blend and create more realistic textures and techniques, color theory and water color and landscapes. They used the knowledge that they gained to complete nature studies of many different subjects including freshwater fish and bats. They also looked through a microscope and drew pictures of algae. The improvement in their abilities to make observations and realistic drawings was huge. The watercolor paintings of the Chesapeake Bay Environmental Center were beautiful.

Students sold rain barrels to raise funds for their restoration projects, both on campus and at Lake Anna. Water quality was again tested after these restoration techniques were implemented and students saw that these techniques do improve local water quality. Combining the science knowledge with the field experiences and art components made this a very successful and impactful project.

CBTRUST
Chesapeake Bay Trust

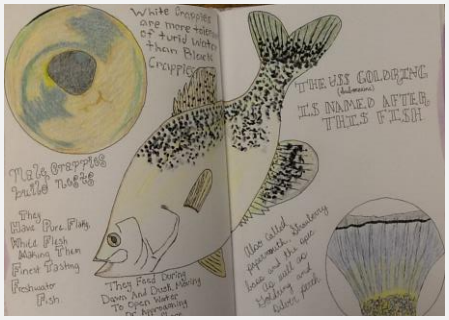
Essential Elements

Issue Definition: *How do our actions within Spotsylvania County affect the water quality of a local body of water and the Chesapeake Bay? How can we educate the community and give them basic skills to lower our Total Maximum Daily load?* Students combined art and science to create nature journals and field guides of their native habitat.

Outdoor Field Experiences: Students learned how to use the water quality tests for turbidity, dissolved oxygen, phosphate and nitrate and collect data at Lake Anna. They learned how to use the easy scan gels to test for Coliform Bacteria in our school ponds and at Lake Anna. Next they learned how to install silt fence while working at Lake Anna State Park. Students then collected data from the school ponds and investigated where the water from the parking lot flows. After this students travels to the Chesapeake Bay Education Center were they took part in several activities on the Bay including studying crabs, oysters and raptors, as well as kayaking in the salt marsh in order to study the water quality of the Bay.

Student-led Action Projects: Students designed, painted and sold rain barrels to the local community, which allowed them to fund other restoration work such as raising the brook trout, organizing trash pickups and restabilizing shoreline. After the initial water quality data collection students returned to their assigned sites to collect more data. This data was to see the effects of using silt fencing and vegetation on water quality.

Synthesis & Conclusions: Finally, students painted watercolor landscapes of the Bay based on photographs taken during their trip to the Chesapeake Bay environmental Center. These paintings were displayed in a showcase in the school that highlights current bay issues including dead zones, invasive species and water quality issues. Based on the data collections and field experiences, students were able to gain a better understanding about their impacts on local water quality issues as well as the water quality of the Bay.



CBT Funds Awarded:	$3,793
Fundraising:	$2,592
Total:	**$6,385**

Project Partners:

DCR
Virginia Department of Conservation & Recreation

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DEQ
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