

# Reducing Pollution in the Bay

By EllaJay Parfitt

As part of the Environmental unit in science (7th Advance Academic), I engage students in a three phase service-learning project. The students engage in both direct service and advocacy. Students learn about environmental problems that affect the Bay and write letters in support of the Chesapeake Bay Foundation's education and public awareness programs. Some of the letters also address public awareness of what goes in to the Bay from littering. As part of their course, students work in the outdoor classroom collecting data for the Baltimore Ecosystem Studies and refurbishing the area for underclassmen and elementary students who will visit the school grounds. Students also developed lessons that they will teach to other students about our environmental site and the Bay.

The need in the community was environmental awareness and how we interact with our Bay. We hoped to reduce pollution in the Bay.

The curricular objectives that the students met with this project are based on the Maryland Content Standards in Science: Apply concepts and processes of science to take and defend a position relative to an issue; Use the knowledge of science and available scientific equipment to devise a plan to solve a global (local) problem; Compare how different parts of the world have varying amounts and types of natural resources and how the use of those resources determines environmental quality (i.e. soil erosion, water pollution, deforestation); Analyze how human activities can accelerate or magnify many naturally occurring changes (i.e. erosion, air and water quality, populations).

Students conducted weekly assessments of their progress and at the conclusion of the project discussed the impact that their lessons had on the younger students. They made a difference in how the students view our environment. They felt that they had given back to both the school community and the environment and left others with facts to help them appreciate the beauty of nature.

Students' responsibilities were developed using cooperative groups that became research teams. Each member of the team had a responsibility or job to perform in completing the curricular assignments and the service assignments. Students identified what they wanted to accomplish over the course of the unit and mapped out who was doing which tasks. The outline was then approved by the teacher.

Community partnerships were loosely established with the research scientists of the Baltimore Ecosystem (BES) and the nearby elementary school.

To plan for the project, I reviewed the Maryland Science Standards and set up meetings with the BES research team. At the meeting, I presented my ideas for the outdoor classroom and the elementary outreach. They continue to support my students in their studies and projects.

To prepare my students for their projects, we studied issues that effect the Bay and all who depend on it. We conducted experiments to test water, air and plant photosynthesis. We used the internet to find out the latest information on government policies or new twists to old issues.

