



*2009 MSDE Annual Convening  
of Service-Learning Leaders*  
**Service-Learning Unit**  
**Goes to the Reef**  
*Talbot County Public Schools*

**Primary Subject:** Science

**Grade Level:** 6th

**Additional Subject Area Connections:**  
Language Arts, Mathematics

**Unit Title:** Goes to the Reef

**Type(s) of Service:** Indirect

**Unit Description:** Students created reef balls at Environmental Concern's Wetland Learning Campus. With the help of Environmental Concerns youth educators, twenty-five sixth graders produced three artificial reef balls for use as habitat in a Chesapeake Bay reef sanctuary. The primary goal of the project was to give students an opportunity to take part in a process that will result in preserving and enhancing the area's greatest natural resource, the Chesapeake Bay.

Creating reef balls is a two-step process. The first is to assemble the molds and to participate in a "pour". Pours consist of assembling the molds, placing bladders and nerf balls around the inside (these create the vacant space) then mixing and pouring the concrete. The students worked in teams, some students assembled the molds, others prepared the concrete mixture while others waited to add sand and inflate the bladders. The second step is "Hatching", which is simply pulling the mold off and peeling out

the deflated bladders. The final touch was power washing the outside of the ball to roughen the surface, this will help benthic organisms attach. Environmental Concern has arranged for the three reef balls to come to their final resting place on a designated reef sanctuary in the Bay.

**Potential Service-Learning Action**

**Experiences:** Hands-on environmental action (teach others by doing), communication skills, environmental awareness, concern for the bay, and team building

**Maryland Curriculum Standards Met**

**Science**

6.B1

Recognize and explain the human caused changes have consequences for Maryland's environment as well as for other places and future times

**Mathematics**

3.C1, 3.B1

Estimate and apply measurement formulas  
Measure in customary and metric units

**Language Arts**

4.A2

Compose oral, written, and visual presentations that express personal ideas, inform, and persuade

# Alignment with Maryland's Best Practices of Service-Learning: *Goes to the Reef*

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- 1. Meet a recognized community need**  
Restoring habitat, environmental awareness, and education.
- 2. Achieve curricular objectives through service-learning**  
Although science was prevalent throughout this project, math, language arts, and communication/team building skills were also utilized.
- 3. Reflect throughout the service-learning experience**  
Students reflected by educating the public and local businesses in our community about the plight of our fragile habitat and what action can be taken to help slow the negative trend that has so drastically decimated species that once thrived in the bay.
- 4. Develop student responsibility (Students have opportunities to make decisions about the service-learning project.)**  
Students decided what was the most fruitful avenue to present their findings to the community through objectives that correlate with the state curriculum.
- 5. Establish community partnerships**  
Students teamed with Environmental Concern in St. Michaels, Maryland to spearhead the reef mold project. (Environmental Concern Inc. is a 501(c)3 public not for profit corporation, that is dedicated to working with all aspects of wetland)
- 6. Plan ahead for service-learning**  
Students may do follow up visit with Environmental Concern to complete water samples and measure ph levels, and prepare future reef projects/molds.
- 7. Equip students with knowledge and skills needed for service**  
Students have used their team building skills to accomplish a goal, and this is a part of the success. The students put their ideas into action through a coordinated, well-crafted effort.



Talbot County



*\*This material is based upon a template for service-learning experiences created by the Maryland State Department of Education. Opinions or points of view expressed in this document are those of the authors and do not necessarily reflect the official position of the Maryland State Department of Education or constitute an endorsement.*