

Class Syllabus

Class Goals

Teachers will explore and develop a grade/content appropriate Problem Based Learning Unit. Unit should allow for:

- Vertical articulation of science curricula,
- Possible horizontal articulation of historical, social, writing, or mathematical standards,
- Proper implementation of the scientific method/experimental design standards,
- Investigation of state standards focusing upon the water cycle, and environmental stewardship of the Chesapeake Bay and Virginia's watersheds,
- Student use of Project GLOBE atmospheric, water chemistry, and/or coastal biodiversity protocols for the collection, reporting, and analysis of scientific observations, and
- Student use and exploration of spatial technologies for collection, reporting and modeling of environmental data.

Class Dates and Topics

October 26 (4 PM to 8 PM) and October 27 (8 AM to 12 PM)

Dr. Jim Botti: Introduction to PBL Units

November 13 (4 PM to 7:30 PM)

Guest Speaker: Robin Dunbar – Elizabeth River Project: Overview of the Watershed

TSW Define the geographic extent of the Elizabeth River Watershed with spatial technologies.

November 27 (4 PM to 7:30 PM)

Guest Speaker: Dorie Stolley - Back Bay National Wildlife Refuge: Phragmites Eradication

TSW Locate and identify flora extents with GPS and spatial technology

December 11 (4 PM to 7:30 PM)

Guest Speaker: Dr Raj Chaudhury – CNU: Project GLOBE Overview

TSW Explore Project GLOBE protocols with GPS technology.

TSW Access and manipulate Project GLOBE spatial technology over the Internet.

January 22 (4 PM to 7:30 PM)

Guest Speaker: Reese Lukei - College of William & Mary: Birds of Prey in Hampton Roads

TSW Define migratory bird extents and patterns with spatial technology.

February 12 (4 PM to 7:30 PM)

Guest Speaker: Dr. J. Pletl – HRSD: How HRSD has Preserved and Enhanced the Elizabeth River Watershed

TSW Practice Project GLOBE protocols of turbidity, salinity and temperature.

February 26 (4 PM to 7:30 PM)

Guest Speaker: Laurie Sorabella- Oyster Reef Keepers: Oyster Restoration Efforts Within
the Chesapeake Bay

TSW Explore Project GLOBE water chemistry protocols of dissolved oxygen, pH, and
nitrate concentrations.

March 11 (4 PM to 7:30 PM)

PBL Group work date.

April 8 (4 PM to 7:30 PM)

Guest Speaker: Dr. Paul Adams – Fort Hays State University: Project GLOBE Atmospheric
Protocol Training

TSW Achieve Project GLOBE teacher certification in atmospheric protocols.

April 22 (4 PM to 7:30 PM)

Presentations of group PBL research.

May 13 (4 PM to 5 PM)

Individual PBL Topic Due

June 3-5 (Field Experience)

James River State Park, Gladstone, VA

Details (activities, meals, transportation, etc.) TBA