

OPERATION OYSTER

OYSTER RESTORATION PROGRAM





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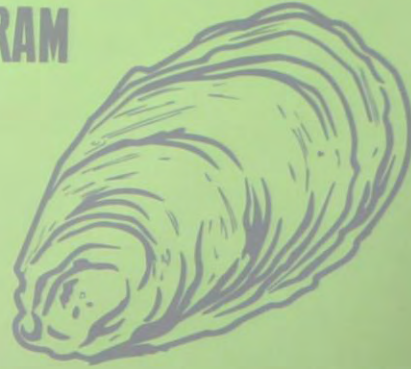
Cross Curricular Programming

FORRESTDALE SCHOOL

October 2017

OPERATION OYSTER

OYSTER RESTORATION PROGRAM



7th graders
start with a
program
overview.

RESTORATION - EDUCATION - ADVOCACY

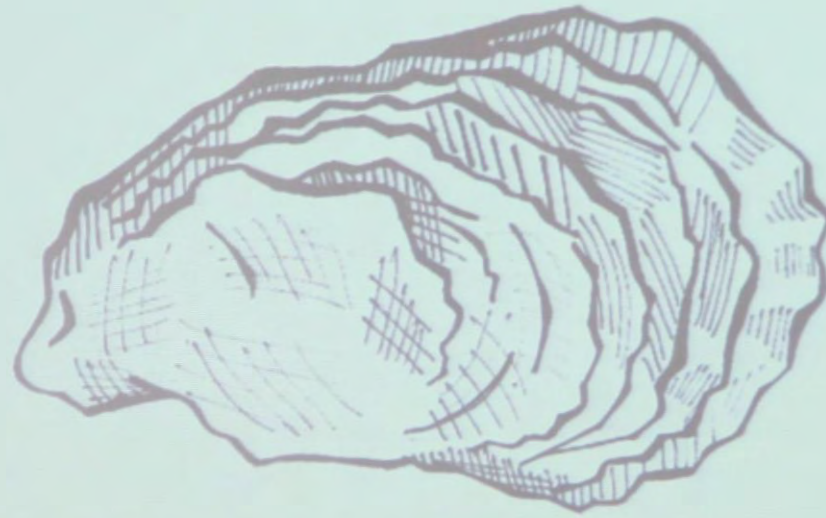
BELIEFS

Healthy, Clean Water is Important

Nature Provides Solutions Both Globally, and Locally

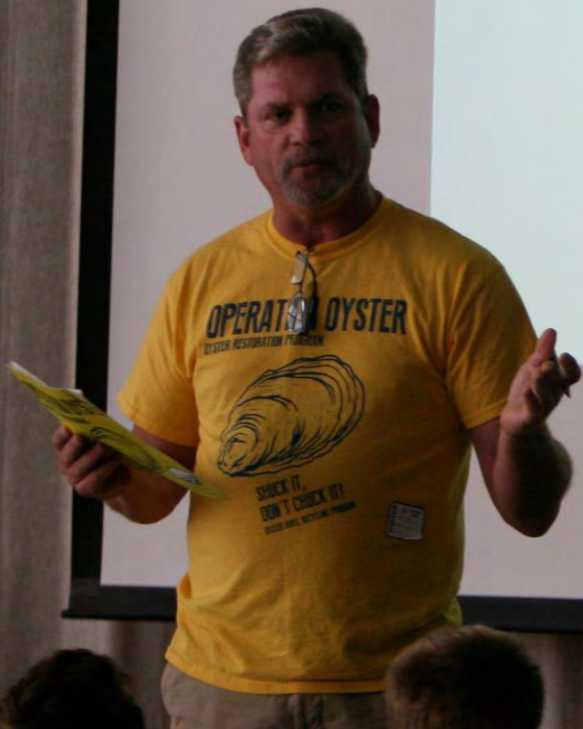
Everyone Has a Stake in a Healthy Marine Environment

You Can Make a Difference

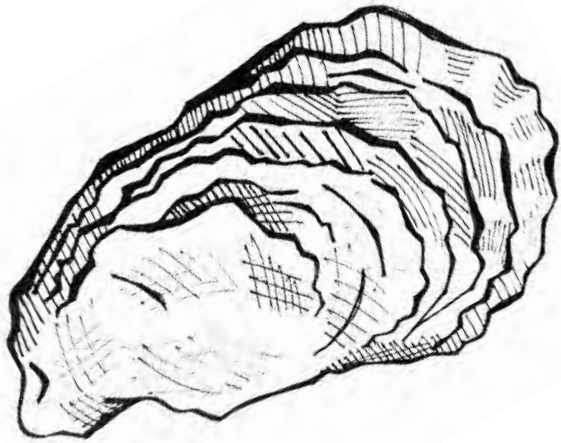


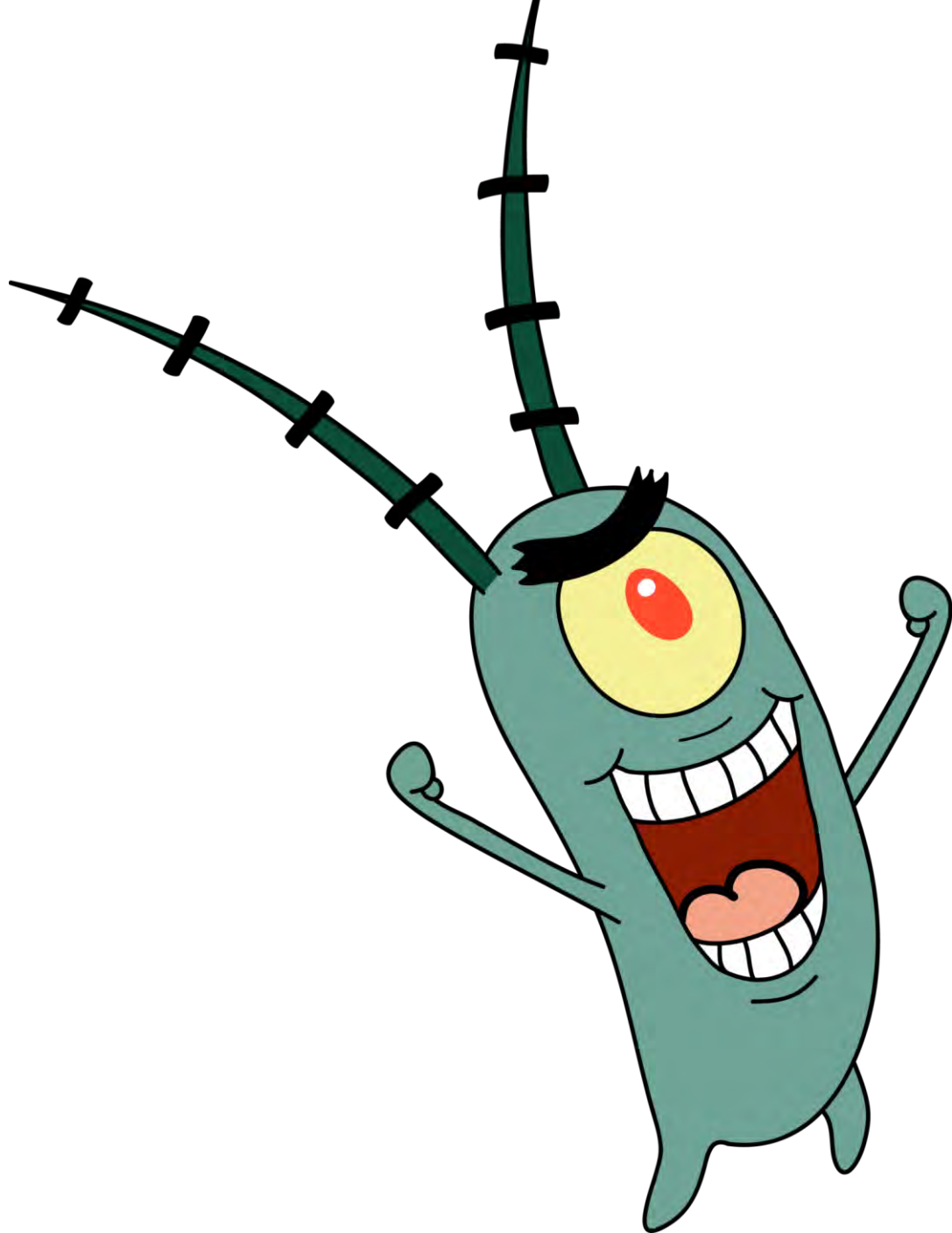
Why Oysters

Followed by
information
about the
Littoral Society's
**Operation
Oyster**
program.



Then students split into breakout sessions.
Their teachers traveled with them
throughout the day to share their
experiences.





SCIENCE CLASS

Ecology, Human Use, Water Quality

Why is the water is polluted?

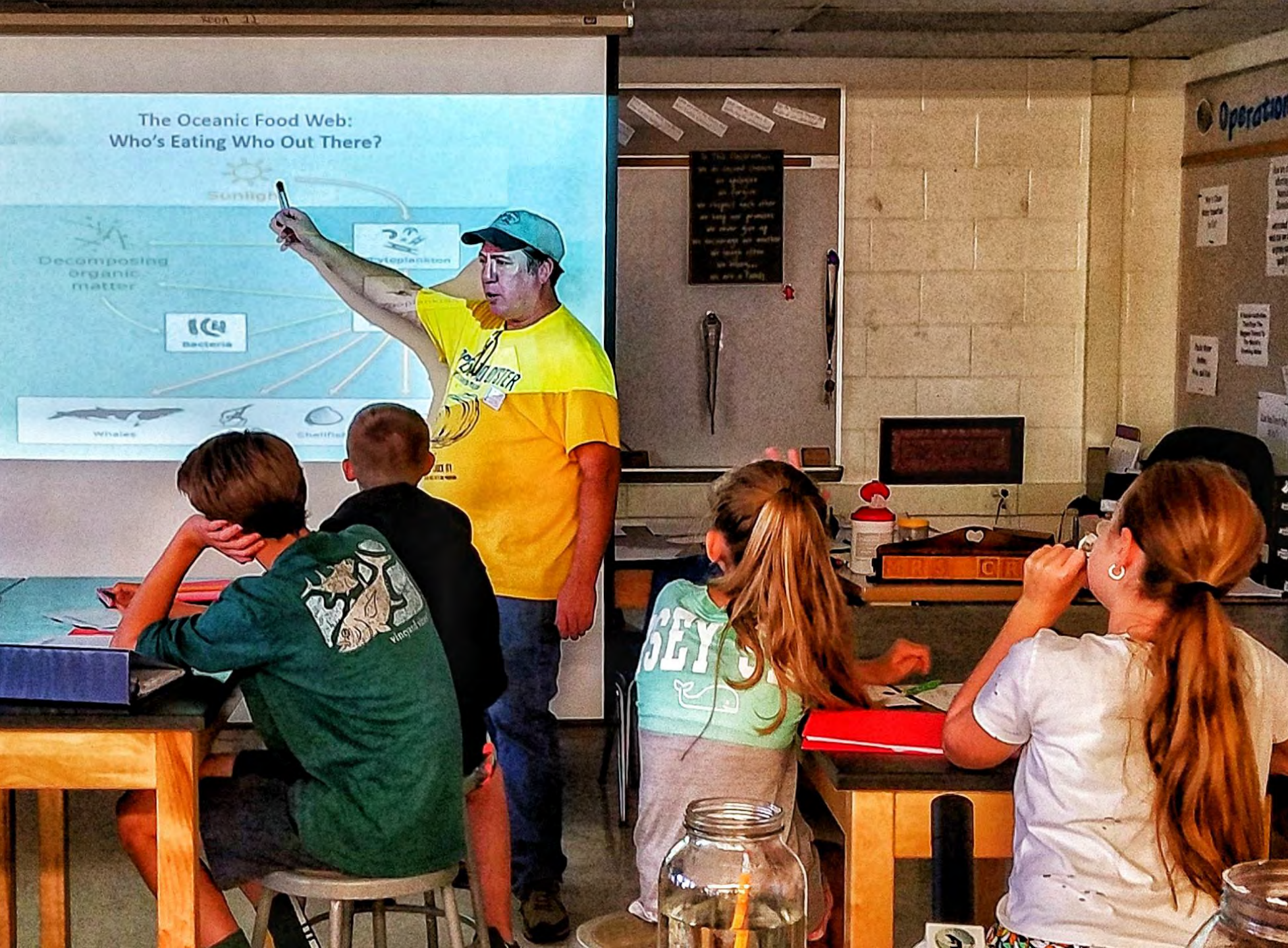
About plankton

Refractometer: salinity in 3 water samples (river, bay, ocean)

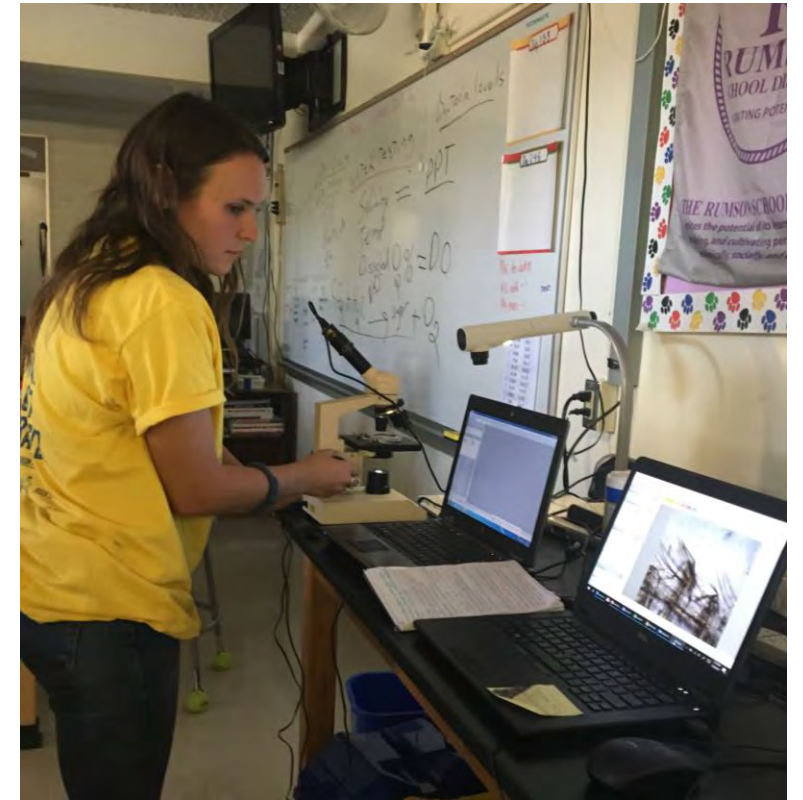
YSI: test water quality

Jeff Dement, Fish Tagging Program Director

Lindsay Weil, Education Director

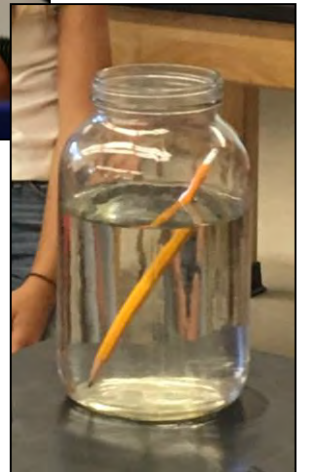


Who's eating
who out
there?



Students view live plankton samples.

Students use a refractometer to measure the salinity of 3 water samples: river, ocean, bay.





Students use
YSI for water
quality testing

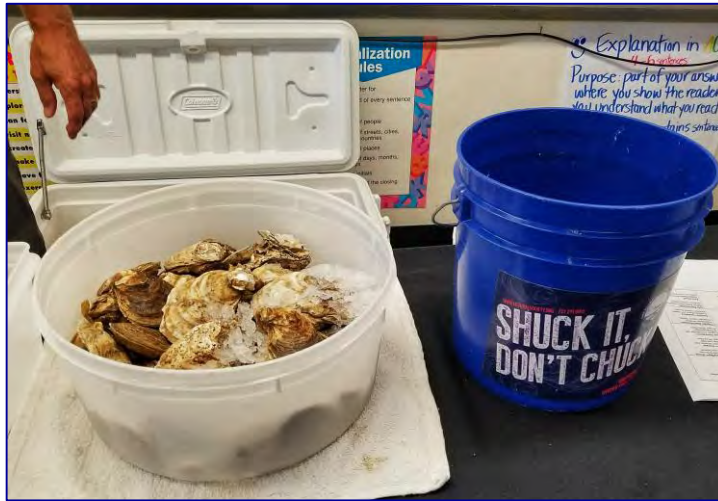




Water PH station.

ENGLISH/LANGUAGE ARTS 1 CLASS

Oyster Examination, Tasting and Poetry



Doug Douty, Trustee and Owner, Lusty Lobster

Sean Douty, Lusty Lobster

Colleen Doogan, Education Director, PROJECT WRITE NOW

Lisa Hartsgrrove, Educator, PROJECT WRITE NOW



Shuck It, Don't Chuck It
Why recycle shell?



Understanding
the oyster.



Yes, we
are going
to eat
one.









The superintendent tries one...

and others follow suit.

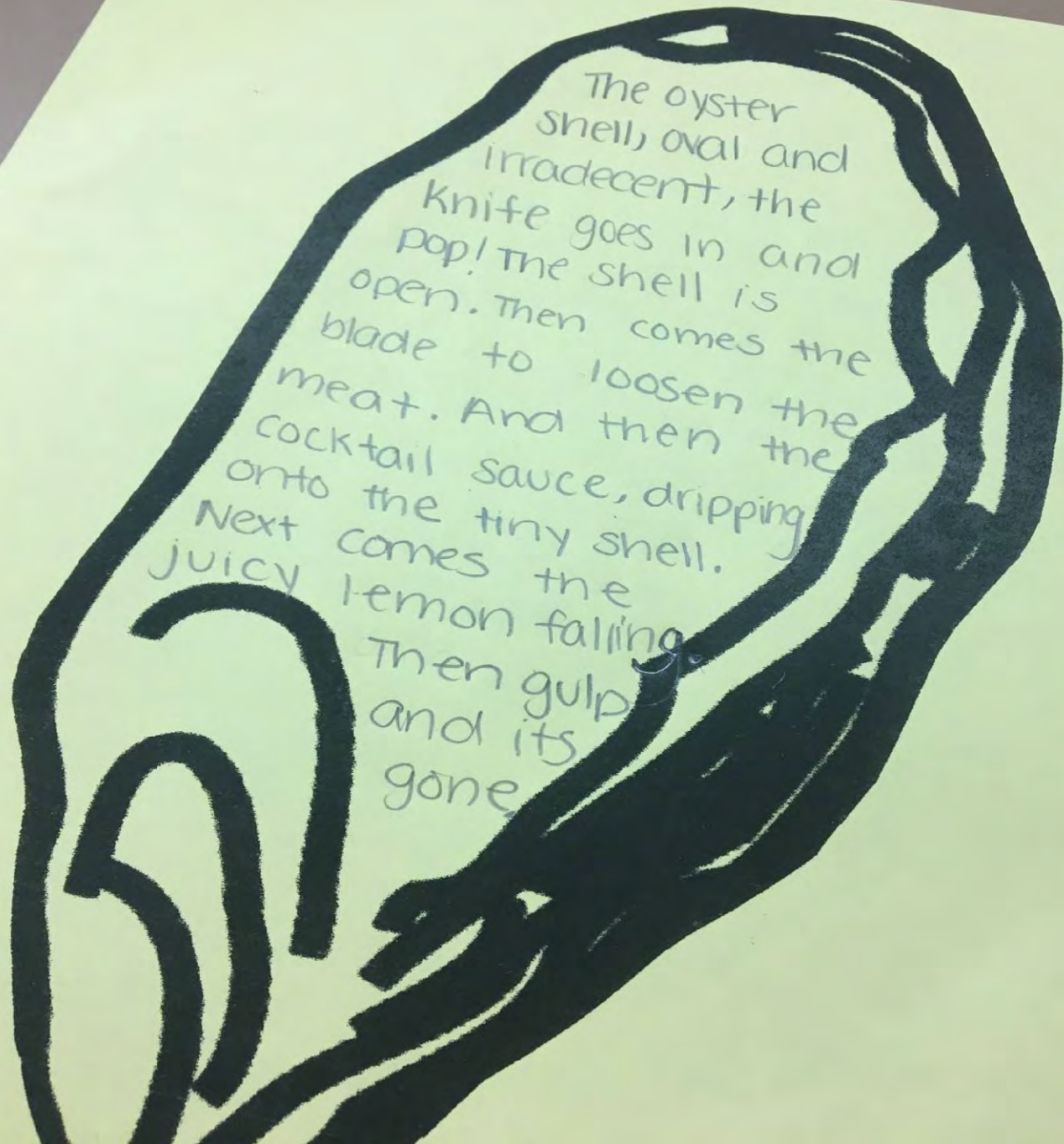




Even 7th grade teacher Ms. Stahl built up enough courage to try her first oyster, to the delight of her students.



Teachers from Project Write Now facilitated some poetry writing about the oyster eating experience.



The oyster shell, oval and irradecent, the knife goes in and pop! The shell is open. Then comes the blade to loosen the meat. And then the cocktail sauce, dripping onto the tiny shell. Next comes the juicy lemon falling. Then gulp and its gone.



- slippery
- wet
- juicy
- shuck
- salty
- smelly
- cold
- raw
- seafood
- chewy
- shuck
- white
- black
- muscle

ENGLISH/LANGUAGE ARTS 2 CLASS

Environmental Advocacy and Policy

Laws and Victories

Shaping Policy

Persuasive Letter Writing



Tim Dillingham, Executive Director, American Littoral Society

How laws are made - victories through the decades.





Students write their own letter to ask for support for shell recycling, or clean water initiatives.

Why important to you?

The issue

Ask for action

Always provide an idea or solution

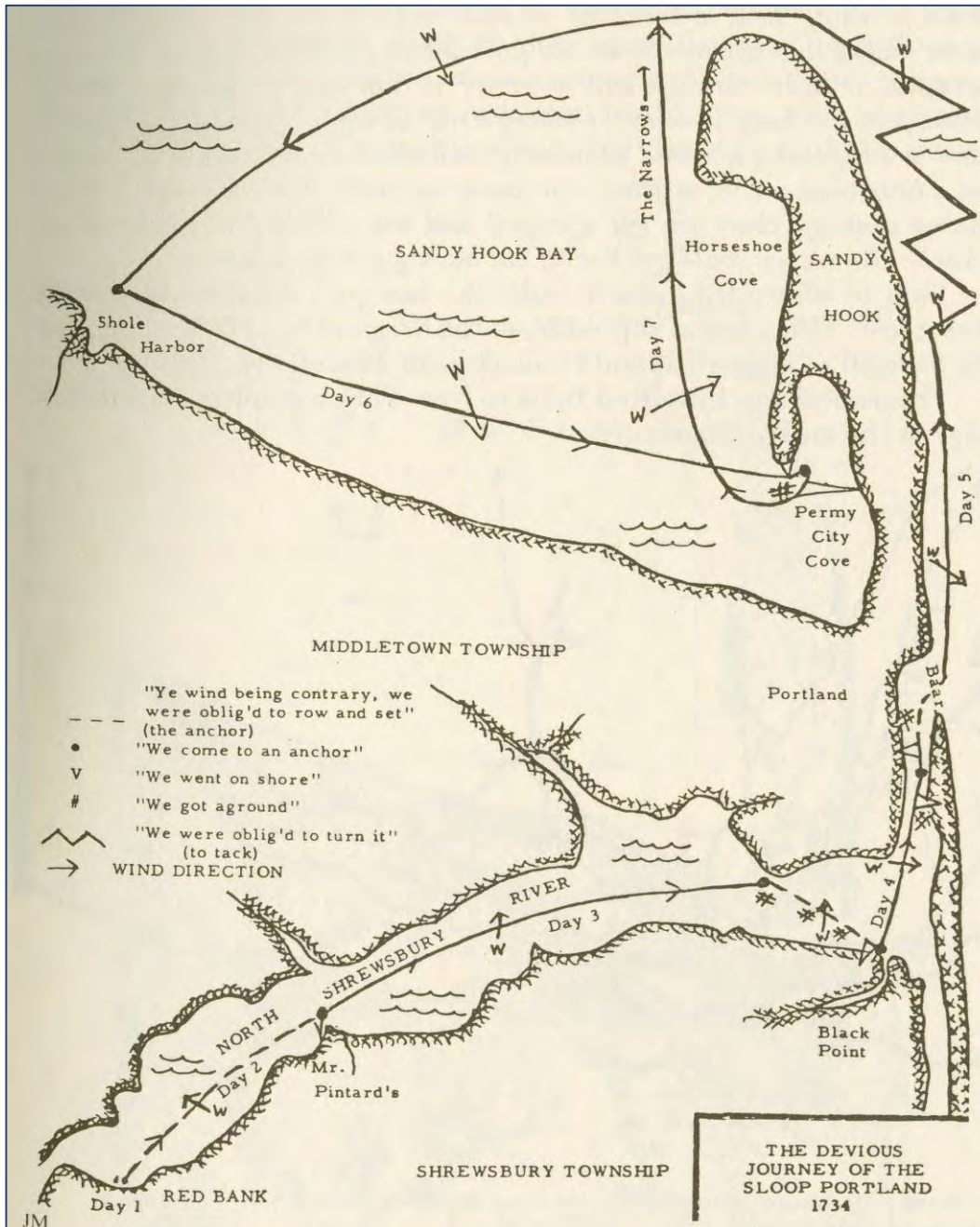
How to do it?

Ask again

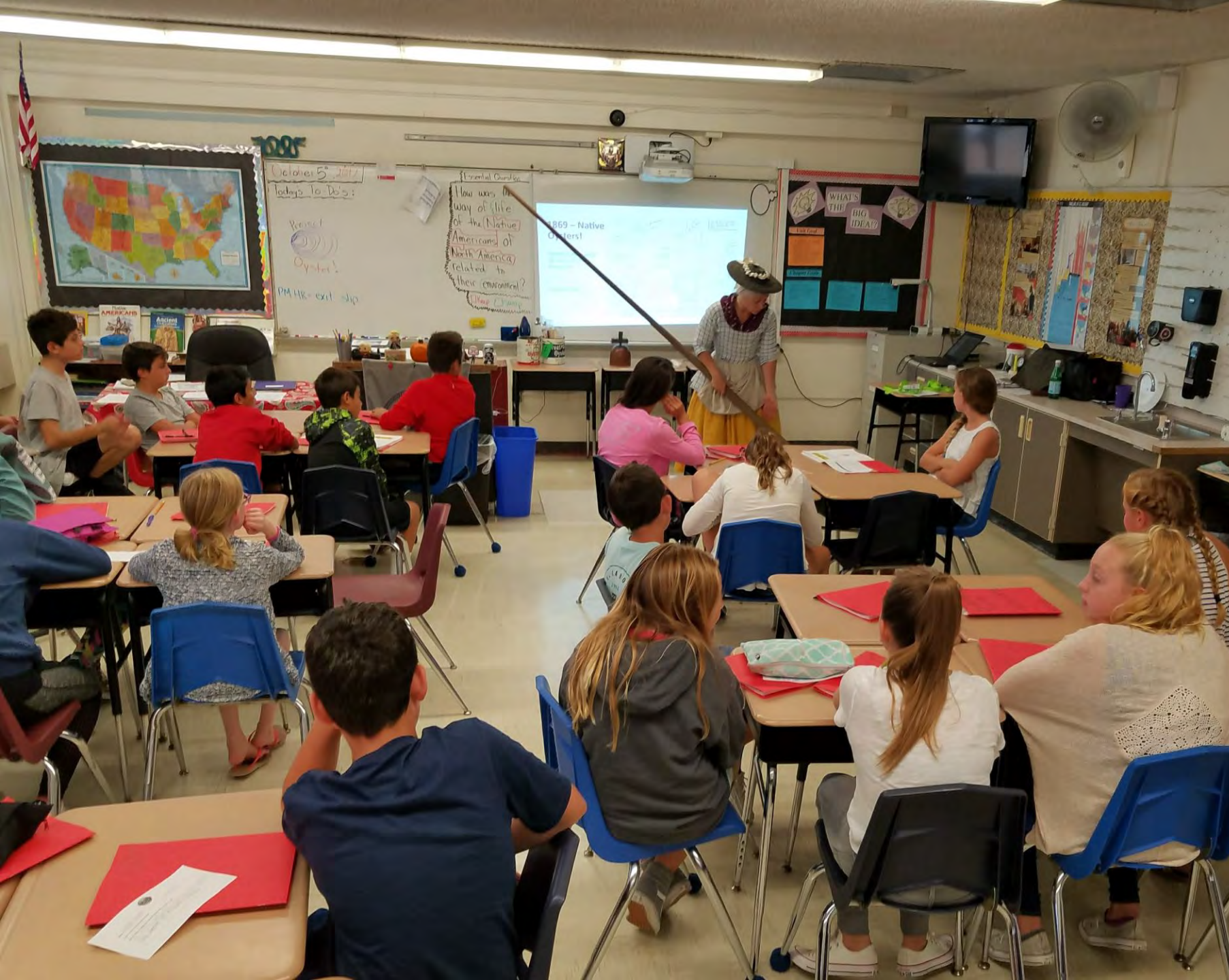
SOCIAL STUDIES CLASS

History of the Two Rivers

History on the Half Shell North and South Shrewsbury Rivers



Pati Githens, Education Coordinator,
Monmouth County Historical Association



An oyster rake and other artifacts are examined.

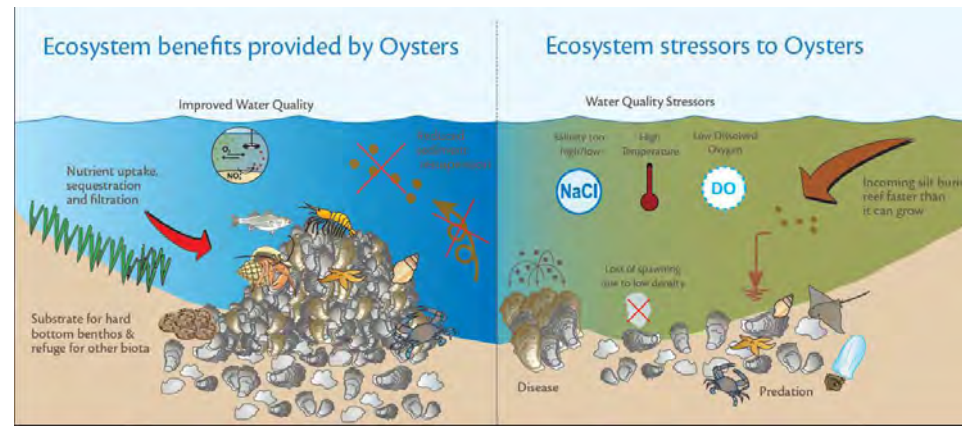


It took 13 days for a boat to travel from Red Bank to New York and back to deliver oysters.

MATH 1 CLASS

Oysters as Ecosystem Engineers

Oyster Reef Engineering Living Shorelines



Kathleen Gasienica, President of the Board, American Littoral Society
Captain Alek Modjeski, Habitat Restoration Director

Using stream tables demonstrates the effectiveness and purpose of oyster reefs and living shorelines.





Students record observations and draw conclusions about what works best.

AMERICAN LITTORAL SOCIETY
OPERATION OYSTER TIDY UP
HUNTSVILLE, ALABAMA
October 5, 2017

MODELING BEACH EROSION: POSSIBLE SOLUTIONS

The physical properties of the ocean including waves, winds, tides and currents, shape, mold and redistribute the sediment or sand of the shore. Humans have attempted to change the natural, dynamic nature of beaches and dunes by creating seawalls, groins, groynes and bulkheads.

This lab will simulate some of these interventions as well as nature based solutions provided by the American Littoral Society and compare the results.

Team Name: _____

Beach Type: (check one) ☐ sea wall ☐ vegetation ☐ long shell reef ☐ multi shell reefs

Period: _____

INSTRUCTIONS

1. Draw a line to represent the shoreline in the BEFORE diagram. Note the length of the beach.
2. Group create 20 waves and draw the shoreline in the AFTER diagram.
3. Assign a team member to record all observations of any differences between BEFORE and AFTER the wave action. Note all changes, i.e. how the shoreline changed, the height and shape of the beach, change in structures behind the beach, areas of erosion, etc.
4. When all teams are finished, support a team captain to compare results of other beach models and draw conclusions, i.e. what system worked best, why, etc.

OBSERVATIONS

BEFORE

AFTER





MATH 2 CLASS

Math Matters

Why math matters in our work!

Data collection - Statistics vs Data Analytics , Presence vs. Abundance,
Sampling vs. Surveying

Analyzing Shell Bag Data: graphing and charting, biotic indicators, rating
the health of the overall watershed

Julie Schumacher, Habitat Restoration Technician Zack Royle,
Habitat Restoration Technician





Students learn about oyster shell bags and the importance of collecting and analyzing the data gathered during monitoring.





They also learn about what they might find in one of our shell bags, aside from oysters!





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FORRESTDALE SCHOOL

October 2017

This program was made possible through a generous grant from

The Stone Foundation of New Jersey

with support from the following organizations

THE GROVE | WEST
at Shrewsbury

BROOK 35 & WEST

MARTA HEFLIN
F O U N D A T I O N





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