

COASTAL EROSION PROJECT



NAME: _____

Your final project is due Friday at the end of class. Our town hall meeting will be Monday, March 2.

Check your labels, measurements, and complete sentences.

Our class has been learning about weathering, erosion, and deposition. We have made it our mission to solve coastal erosion that plagues the Western side of the United States.

Your job is to:

1. Research and take notes on coastal erosion.
2. Brainstorm and research possible solutions.
3. Develop a strategic plan to solve coastal erosion.
 - Your plan could include: plant barriers, sea walls that won't break down, etc. Be creative, but also be reasonable.
 - Write out and draw/label
4. Create a materials/supply list and budget for your plan.
5. Write a town hall speech for the residents of the Western United States,
6. Design your product using materials around the classroom.

Check your labels, measurements, and complete sentences.

Read this Scholastic Article and highlight important information using your pencil or a marker.

Keeping Up with Coastal Erosion

By David George Gordon

Coastal Erosion, Kids' Environmental Report Card

Air temperatures aren't the only things that are rising these days. The levels of our seas and oceans are also rising due to the added water from melting polar ice. As a result, many of our once-protected coastlines are being pounded by strong waves. Bit by bit, the waves are carrying away the soil and rock — a phenomenon called coastal erosion.

What should be done to counteract this threat to our shorelines? The results from the Kid's Environmental Report Card poll show that most kids want to save our eroding shorelines. "Plant trees and erect walls" was the most popular action among those taking the poll. Moving people away from the coast proved the least popular alternative, followed closely by doing nothing — leaving residents to deal

Check your labels, measurements, and complete sentences.

with the consequences of living too near the planet's gradually rising seas.

Water We Going to Do?

Determining what's best for our coasts and the people who live along them is extremely challenging. Scientists are uncertain about how high our oceans will rise during this century, making it difficult to pick an effective strategy. Recent estimates range from about 16 inches to three feet a century. The higher of the two figures would be catastrophic for wetlands and other coastal habitats.

Changing storm patterns caused by global warming could dramatically increase the effects of coastal erosion, according to Jordan Slott, a researcher at Duke University. If Slott is right, building walls and planting trees may not be enough to slow coastal erosion.

"We want those involved in managing coastlines — and the people living there — to realize that the story is more complicated than they might think," says Slott.

Check your labels, measurements, and complete sentences.

Research –

Define.

Weathering:

Erosion:

Deposition:

What is coastal erosion?

How does coastal erosion impact people?

Check your labels, measurements, and complete sentences.

What do you know about the issue, and what do you need to know to begin this project?

WHAT I KNOW	WHAT I NEED TO KNOW

Read Article on one
potential solution.

Summer Project, Grade 4

Phase 7

Finding a Solution

Recycled Christmas Trees Give Louisiana Coastline a Break

December 22, 2000
Web posted at: 2:53 PM EST (1953 GMT)

From Mary Pflum
CNN Correspondent

(CNN) -- The state of Louisiana loses 30 miles of coastline each year. A system of levies and canals that is designed to keep cities like New Orleans dry also keeps sediment from replenishing shrinking shorelines.



A Louisiana family chooses a Christmas tree

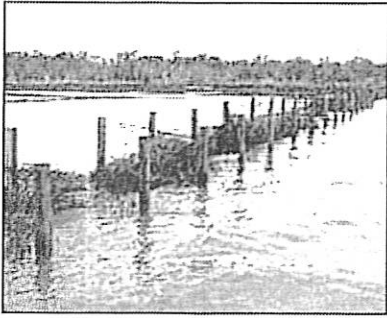
That's where the Christmas trees come in.

For more than a decade the branches of recycled Christmas trees have been providing happiness in more ways than one. In December, they are fragrant fixtures in living rooms, while in January they help save the troubled coastline.

"The Christmas tree project started 11 years ago. They break the wave action so they protect the wetlands. We also use them to fill in abandoned, dead-end oil and gas canals," said Marnie Winter of the Louisiana Department of Environmental Affairs.

Borrowing an idea from the erosion-prone Netherlands, Louisiana environmentalists came up with Project Christmas Tree.

Each January, officials collect the old trees during pickups organized by the county. The trees are then bundled by volunteers and taken to the wetlands via National Guard helicopters and barges donated by the oil industry.



All told, Louisiana's annual Christmas tree program has utilized more than a million Christmas trees in its 11-year history. Those trees have been used to construct a natural coastal fence that is now about seven miles in length.

"Seeing is believing. We're seeing very dramatic results," said Waters. "You can see in the canals where there was once open water. You can see trees growing. Lots of vegetation. Wildlife loves it. It's good habitat."

The recycled trees are used to create a natural coastal fence

The Louisiana program has earned accolades from President Bill Clinton and the Environmental Protection Agency. But many locals say a rebounding coastline is

the only reward they seek for their tree donations.

"We get our tree for two reasons. One, it makes the house smell nice. And two, it helps the environment," said one Louisiana resident.

State officials say that 80,000 trees purchased on Louisiana tree lots this holiday season will end up in coastal wetlands.

Your Task

In this phase, students now know more about coastal erosion; this will help them as they learn more about the specific methods communities have used to reduce the effects of erosion brought on by natural and man-made forces. Use the websites on this page to guide the research that will tell you how each solution is used, and the advantages and disadvantages of each. Once you've weighed the pros and cons of each, take a position on one solution for the community of Dunesville. Complete the Plan of Action. This will be included in your presentation.

Brainstorming possible solutions:

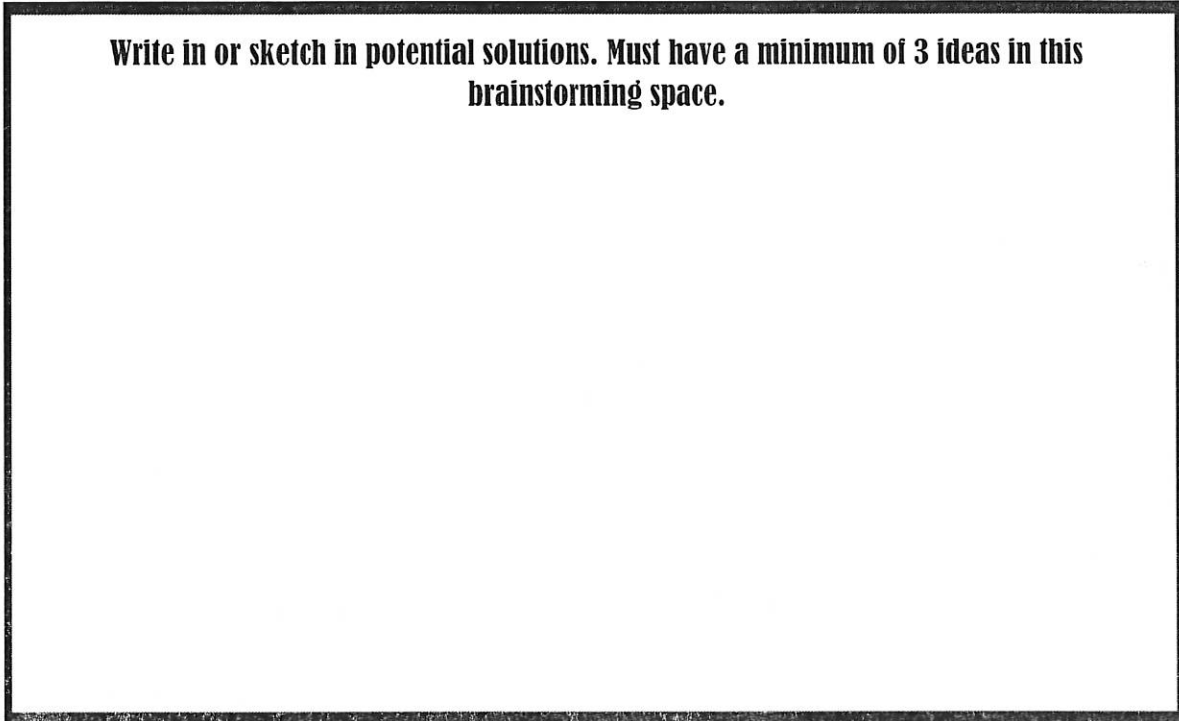
<http://www.erosionpollution.com/beach-erosion.html>

<http://www.seafriends.org.nz/oceano/beacheng.htm>

Check your labels, measurements, and complete sentences.

Research Potential Solutions to Coastal Erosion.

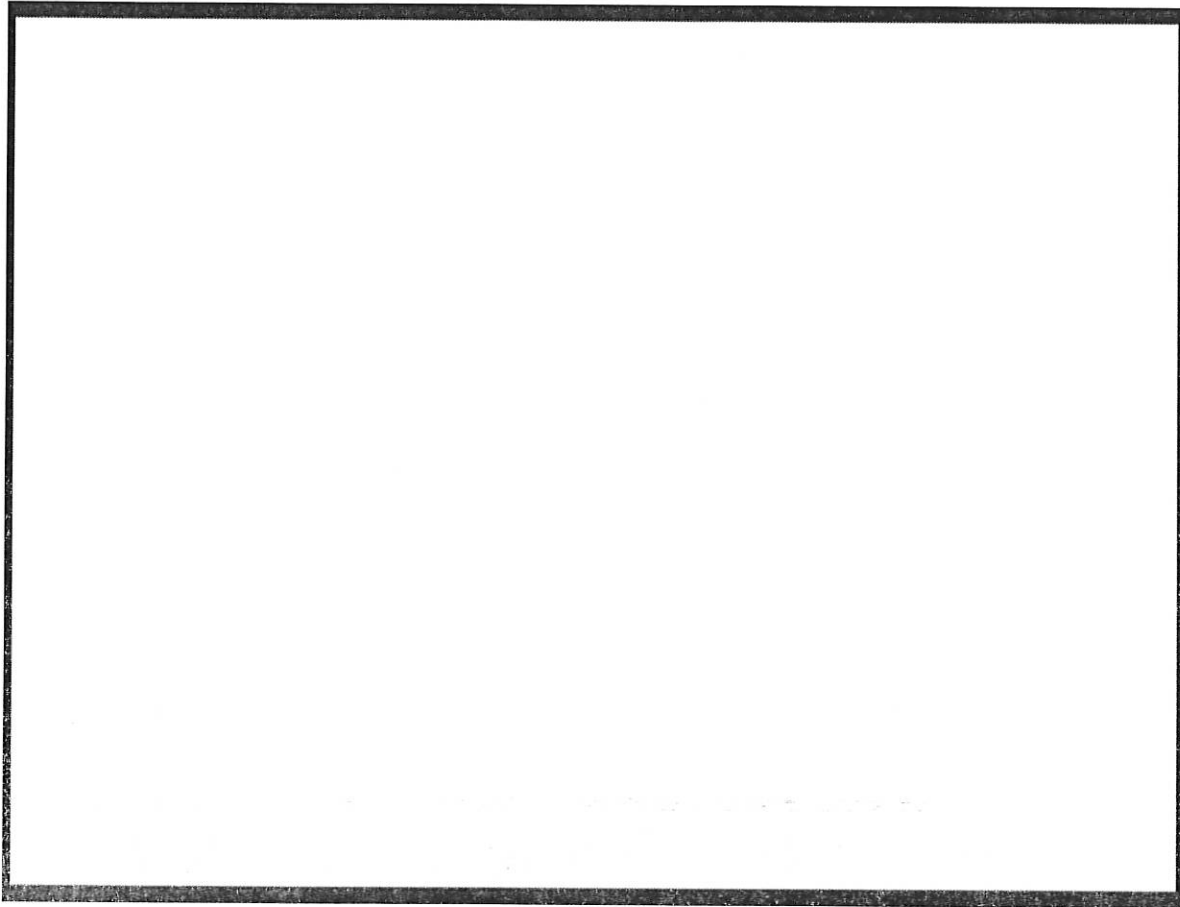
Write in or sketch in potential solutions. Must have a minimum of 3 ideas in this brainstorming space.



What is your decided upon solution to coastal erosion? How will it work? What materials will you use and why?

Check your labels, measurements, and complete sentences.

Draw and label your design.



How large will this design be in feet/miles? Why?

Check your labels, measurements, and complete sentences.

Research materials on various websites, and configure the actual cost to design your coastal erosion project. You must do math to figure out your total cost of the project.

Materials list and rationale for each.

Material	How much you will need	Rationale (Why are you using that particular product?)	Cost (In dollars)

Total Cost (In dollars): _____

Check your labels, measurements, and complete sentences.

Once you finished your Town Hall Speech:

1. Create a poster to advertise your solution. Include COLOR, label materials, COST, and length of coastline covered. Include a memorable "tag" line to sell your idea to the townspeople and mayor.
2. BEGIN DESIGNING YOUR PRODUCT WITH MATERIALS AROUND THE CLASSROOM. IT IS PERTINENT THAT YOU LABEL EACH ELEMENT OF YOUR 3DIMENSIONAL DESIGN TO REPRESENT WHAT IT IS.