

LIVING WITH WAVES

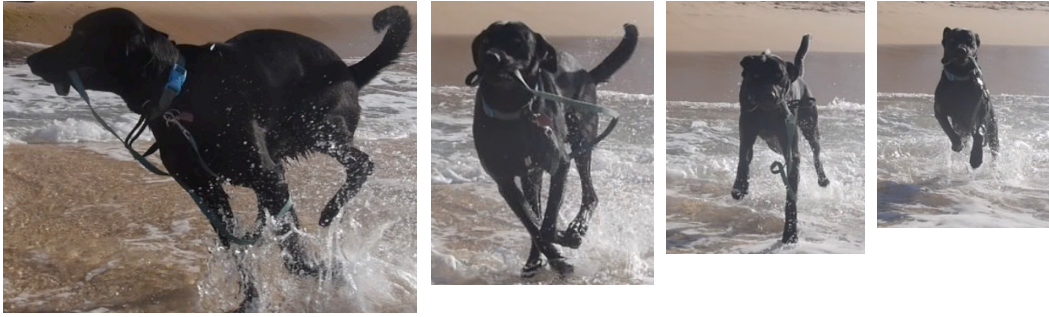
Improvised Engineering

The sounds of rushing water and rolling waves seem so pleasant and exciting, especially when we imagine a beautiful day full of surfing and sand castles. However, water is a mighty force! Crashing waves threaten houses in many places in the world including a world famous surf spot—Rocky Point, on the island of Oahu.



Compare the solutions to slow erosion at each beach house and decide which you think is best.





Blue Sailor is a cute dog that loves going to Rocky Point. She knows how to hold her leash up as she runs really fast through the water and sand. She also likes to sniff for crabs.



Over the years, the waves have been pounding the coastline. Now, all the backyards are gone and everyone is worried that their homes could fall into the ocean next! Everyone is getting to work! Blue Sailor is investigating some of the latest neighborhood efforts to slow the erosion!

Help Blue Sailor analyze each of these different solutions for stopping erosion beneath the houses!



Color the stars to show how good you think this idea is.



(More stars means you like the idea better.)

How effective do you think this idea will be to slow erosion?



Strategy: Hundreds of sand bags are stacked and then covered with a big black tarp.

Color the stars to show how good you think this idea is.



(More stars means you like the idea better.)

How effective do you think this idea will be to slow erosion?



Strategy: A big pile of rocks sits in front of the sandy slope to stop the wave action.

Color the stars to show how good you think this idea is.



(More stars means you like the idea better.)

How effective do you think this idea will be to slow erosion?



Strategy: Poured cement and stacked telephone poles rest in front of the sandy slope.

Color the stars to show how good you think this idea is.



(More stars means you like the idea better.)

How effective do you think this idea will be to slow erosion?



Strategy: A pile of pillowcases filled with sand will catch the waves.

Color the stars to show how good you think this idea is.



(More stars means you like the idea better.)

How effective do you think this idea will be to slow erosion?



Strategy: This house is on wheels and can be moved if needed.

Color the stars to show how good you think this idea is.



(More stars means you like the idea better.)

How effective do you think this idea will be to slow erosion?

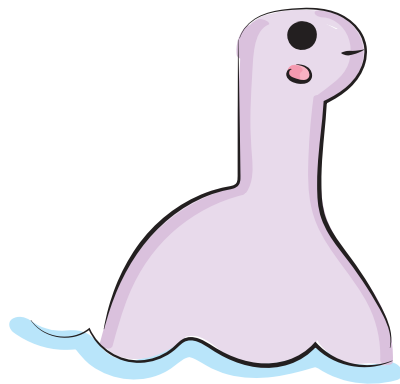
Compare and Analyze Solutions for Slowing Erosion

Because there is always more than one possible solution to a problem, it is useful to compare and test designs. Try modeling each house's design solution. Use materials such as cloth to represent a tarp, a piece of wood to represent a cement wall and small rocks to represent boulders or sand bags. Put sand in a small container, build your solution to slow erosion and slosh water to mimic the waves.

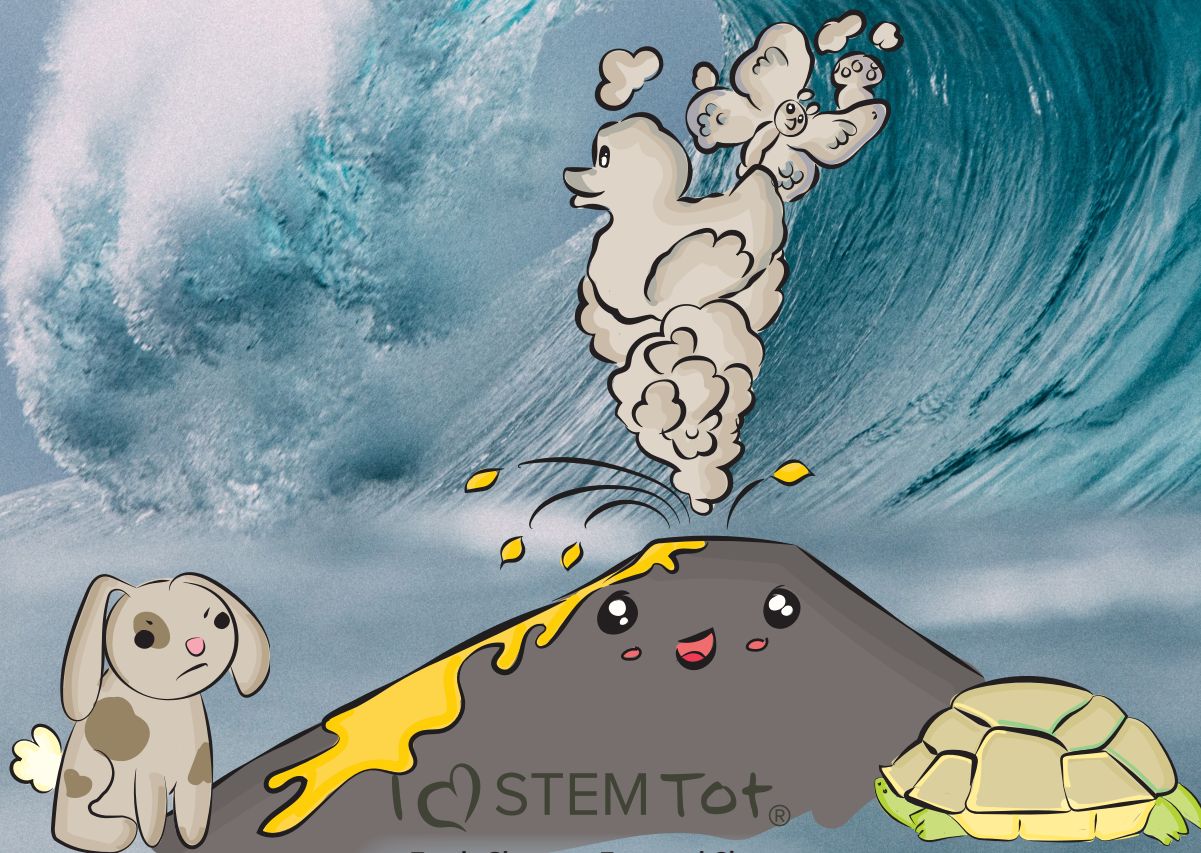
Why are people trying to prevent erosion and what will make them successful?

Which solution do you think is best? Why do you think so?

Which solution do you think is the worst? Why do you think so?



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Earth Changes Fast and Slow

Living With Waves

Student Edition

ISBN 9781952346491



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