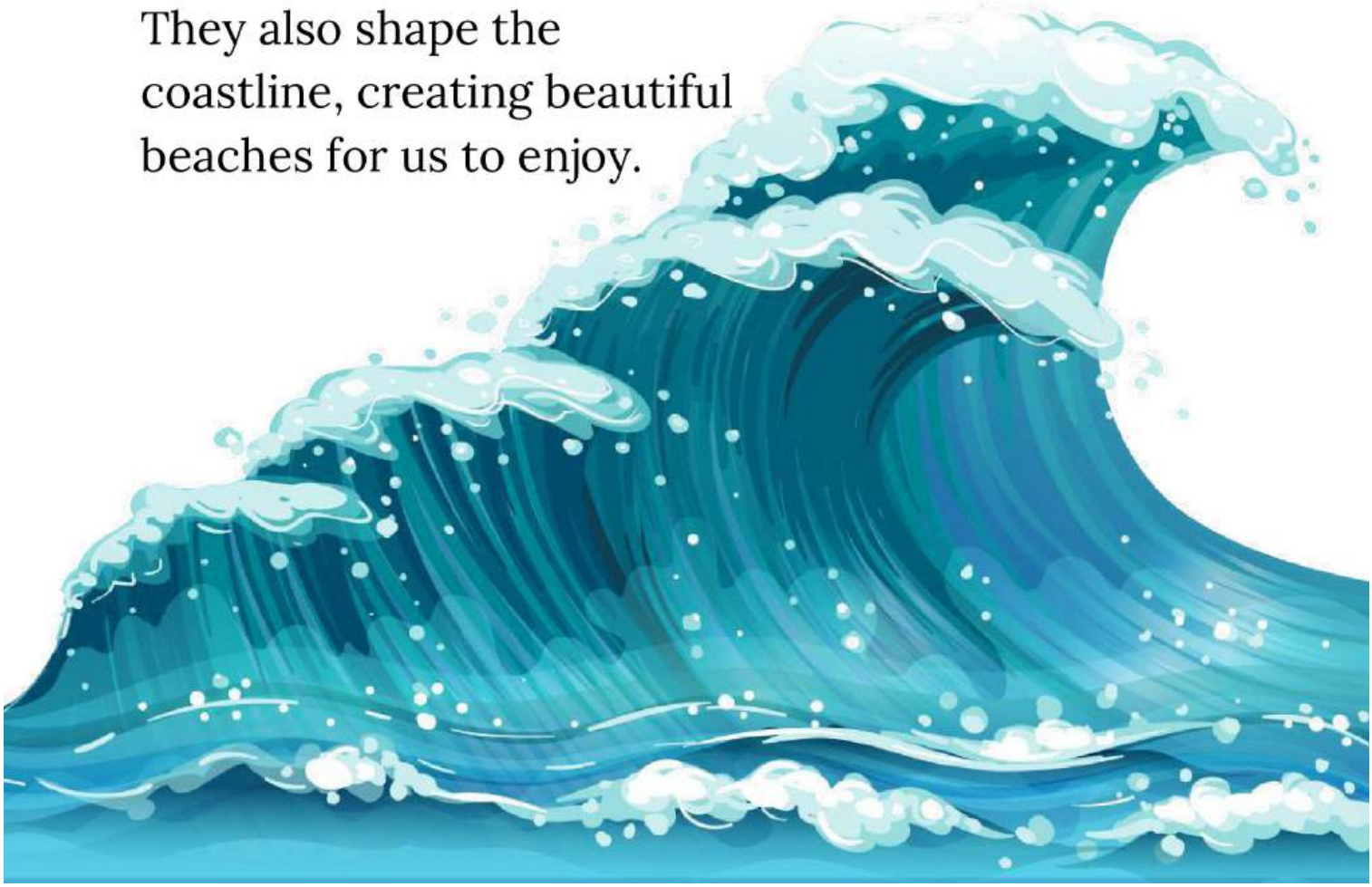
How Waves Work

Waves in the ocean are like big, moving hills of water. They're caused by wind blowing across the surface of the sea. When the wind pushes the water, it creates waves that move across the ocean. **Some waves are small, like gentle ripples, while others can be big and powerful**.

Waves are important because they help mix the water in the ocean, bringing nutrients from the deep sea to the surface where fish and other sea creatures can find food.

They also shape the coastline, creating beautiful beaches for us to enjoy.



OCEAN WAVES BOTTLE

Create an ocean wave bottle as a fun way to demonstrate a little bit about how waves work.

SUPPLIES

Mason jar or plastic water bottle
Vegetable oil
Water
Blue food coloring
Funnel

INSTRUCTIONS

STEP 1: Fill your container 1/2 way with water and add as much blue food coloring as desired.

STEP 2: Fill the rest of the container up with baby oil or vegetable oil. Try and fill the container as full as possible, reducing the amount of airspace that will be left after you screw on the lid or cap.

STEP 3: Cap tightly!

STEP 4: To make a wave tilt and gently shake your ocean in a bottle! Watch the wave action in your sea.

THE SCIENCE

Obviously, waves are not caused by oil floating on water. However this ocean waves in a bottle activity is a good picture of the movement of ocean waves.

Ocean waves are created by energy moving through the ocean water. Most of the time, the energy comes from wind blowing on and disturbing the surface of the water. Other things cause ocean waves too such as the gravitational pull of the sun and the moon. This causes tidal waves or tides!

Ocean Waves

Science and Sensory Play

OCEAN WAVES IN A BOTTLE

Materials I Used:

What I think will happen:

What I did:

What I Saw:

What Happened:

Draw it:

Ocean Wave Bottle Observations

Use this worksheet to process and evaluate your observations.

What do you think will happen when oil and water are mixed together?

What do you think the waves will look like when the bottle moves?

What happened when the oil was added to the water?

How did the waves move when you gently shook the bottle?

What happened to the bubbles inside the bottle?

How is your bottle ocean similar to the real ocean?

NEXT STEPS

LITTLE BINS FOR LITTLE HANDS

IF YOU LIKED THIS ACTIVITY, TRY THESE PROJECTS:

- OCEAN LAYERS JAR
- OCEAN CURRENTS
- WAVE IN A BOTTLE
- HOW DO SQUID MOVE?

5-DAY LESSON PLAN!

TURN THIS INTO A FULL OCEAN SCIENCE UNIT!

OCEAN STEM LABS

EVERY PACK EVERY PRINTABLE

Get the ALL ACCESS PASS!

Little Bins for Little Hands helps make hands-on learning easy for families and educators by providing simple, engaging science experiments, STEM activities, art projects, and printable resources that encourage curiosity, creativity, and learning through play.