

EXPERIMENT 10

WAVES IN A BOTTLE

Let's see how waves move through water and how different liquids can form layers.



10 - WAVES IN A BOTTLE



SUPPLIES NEEDED

- Craft Mat
- 1 – 16oz Bottle
- Bottle of Baby Oil
- 8 oz Water
- Blue Dye



10 - WAVES IN A BOTTLE

STEP 1

Pour the entire bottle of baby oil into the bottle (fill about half way).



STEP 2

Slowly pour in the water until the bottle is nearly full.

Add a few drops of blue dye and swirl very gently so as to not mix the oil and water layer.

Put the cap on tightly.



STEP 3

If there was mixing of the oil and water layer, wait for the oil and water to separate.



10 - WAVES IN A BOTTLE

STEP 4

Hold the top of the bottle with one hand and the bottom of the bottle with the other and turn the bottle sideways.

STEP 5

Gently rock the bottle back and forth.
Watch the waves move through the liquids.
Try making small waves.
Try making bigger waves.
Observe how the oil and water stay in layers.

WHAT TO WATCH FOR

- Water and oil do not mix well.
- The wave shape changes depending on how fast you move the bottle.
- Waves carry energy through water.

In the ocean, wind transfers energy to the water and creates waves.

Did the water move more with gentle rocking or fast rocking?

What do real ocean waves need in order to form?

