

MAKE A TORNADO WITH YOUR WHIRLPOOL TUBE

Learn how to make a hurricane in a bottle with this fun science experiment for kids. Using easy to find items such as vegetable oil, colouring food, water, glitter and plastic bottles you can make your own mini tornado. That's a lot safer than one you might see on the weather channel. Follow these instructions and enjoy the cool water vortex you create!

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WARNING! Choking Hazard Small parts. Not for children under 3yrs.

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Whirlpool

FIZZY BOTTLE SCIENCE



4 experiments included



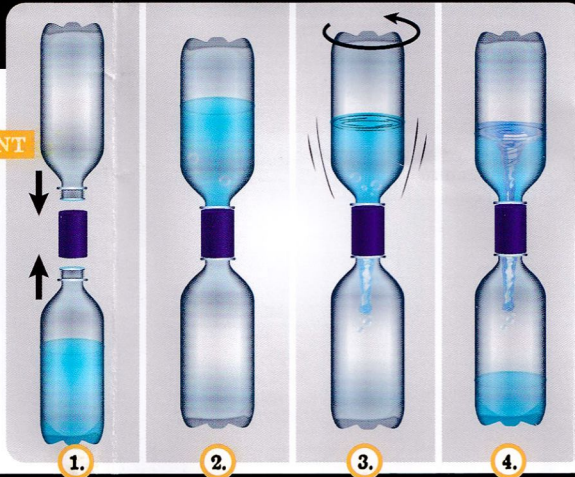
Ages 5+

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EXPERIMENT No.1

THE ORIGINAL EXPERIMENT

1. Take two empty bottles (the larger the better!). Fill bottle 2/3 with water. Screw the Whirlpool tube on to the filled bottle then screw the empty bottle on top.
2. Turn the bottles over so the empty one is on the bottom.



3. Swirl the bottles in a circular motion so the water creates a whirlpool.

4. Watch the water whirl from the top to the bottom tube.

5. Then flip and repeat.

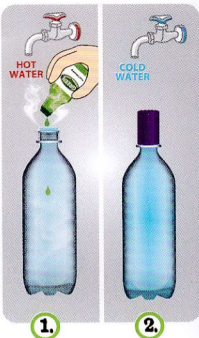
Why does this happen?

The bottom bottle is filled with air, so as the water pours down, the air needs to move from the bottom bottle to the top.

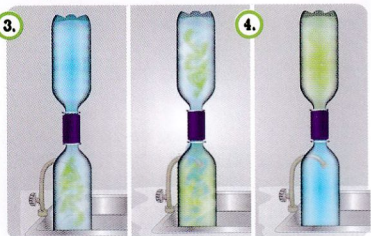
EXPERIMENT No.2

HOT AND COLD

1. Fill one bottle to the top with hot water and add 2 drops of food colouring.
2. Fill the other bottle with cold water and add the whirlpool tube to the bottle.
3. Over a bucket or sink carefully screw the other bottle into the tube.
4. Stand the bottle up with the hot water bottle on the bottom.



Watch as the hot water rises up and swaps places with the cold water.



Why does this happen?

Cold water is heavier than hot water, and hence sinks into the bottom bottle and displaces the hot water. This is because molecules in cold water are more densely packed than they are in hot water.

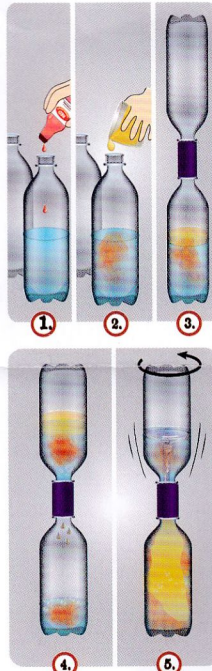


CAUTION Be careful not to burn yourself with the hot water. Get an adult to help.

EXPERIMENT No.3

OIL AND WATER

1. Fill one of the bottles with water and 2 drops of food colouring.
2. Add 1 cup of vegetable oil.
3. Screw both the bottles into the whirlpool tube.
4. Turn the bottles over and swirl them in a circular motion.
5. Observe how the food colouring does not mix with the oil and how the whirlpool is different to when it is just water.



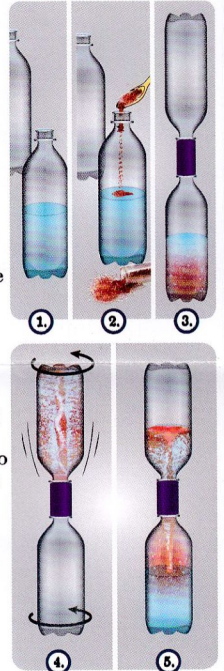
Why does this happen?

Oil has a higher viscosity (thickness) than water so it doesn't mix. This results in the whirlpool collapsing. The food colouring is soluble in water but not oil so only the water will be coloured.

EXPERIMENT No.4

ADD SOME SPARKLE

1. Take 2 empty 2 litre bottles. Fill bottle 2/3 with water.
2. Add 2 tablespoons of your favourite glitter colour.
3. Screw on the whirlpool tube to the filled bottle then screw on the empty bottle on top.
4. Turn over the bottles so the empty one is on the bottom. Swirl the bottles in a circular motion so the water creates whirlpool.
5. Watch the water whirl with the glitter in it from the top to the bottom tube. Then flip and repeat.



Why does this happen?

Glitter is partially suspended in the water as you whirl the water around, and helps you see the movement of the water as it moves through the tube.