

# Zedua Experiments

## **Title:** Easy Lava Lamp

What is density?

The degree of compactness of a substance.

In this experiment, we teach children what is density and what happens when we try to mix two substances of different density.

**Challenge:** Can you Make an Easy Lava Lamp on your own?

## **Materials Required:**

1. Water
2. A clear plastic bottle
3. Vegetable oil
4. Food colouring
5. Alka-Seltzer (or other tablets that fizz)

## **Procedure:**

1. Fill the plastic bottle with water until it is around one quarter full (you might want to use a funnel when filling the bottle so you don't spill anything).
2. Add vegetable oil until the bottle is nearly full.
3. Keep it aside and wait until the oil and water have separated.
4. Add around 10 - 12 drops of food colouring to the bottle (choose any colour you like).  
Note: See that the food colouring falls through the oil and mixes with the water.
5. Cut an Alka-Seltzer tablet into smaller pieces (around 5 or 6) and drop one of them into the bottle, and observe what happens.
6. When the bubbling stops, add another piece of Alka-Seltzer and enjoy!

## **What's happening?**

Oil and water don't mix well. The oil and water you added to the bottle separate from each other, with oil on top because oil has lower density than

water. The food colouring mixes with the water at the bottom. The piece of Alka-Seltzer tablet you dropped in releases small bubbles of carbon dioxide gas that rise to the top and take some of the coloured water along for the ride. The  $\text{CO}_2$  gas escapes when it reaches the top and the coloured water falls back down. Alka-Seltzer fizzes in such a way is because it contains citric acid and baking soda (sodium bicarbonate), the two react with water to form sodium citrate and carbon dioxide gas (those are the bubbles that carry the coloured water to the top of the bottle).



Source: Youtube