

Activity Sheet; How to Make a Lava Lamp (1/2)

How to make your very own Lava Lamp using a few simple steps.

You will need:

- ✓ A clean clear plastic bottle (approx 500ml bottle)
- ✓ Oil, preferably vegetable oil but you can experiment with different oils to see what works best
- ✓ Alka-seltzer tablets or baking soda + vinegar or lemon juice
- ✓ Water
- ✓ Food colouring

Instructions for Alka-seltzer tablet:

1. Fill the bottle about half full with cold water and add a few drops of food colouring
2. Carefully pour in the oil so the bottle is three quarters full and give it a few minutes for the two components to settle and separate
3. Break an Alka-seltzer tablet in to quarters
4. Keep adding the tablet in quarters until you can see the contents of the bottle swirl like a real lava lamp!

Activity Sheet; How to Make a Lava Lamp (2/2)

Instructions for Baking soda + vinegar or lemon juice:

1. Put in 2 tablespoons of baking soda in to the bottle
2. Fill the bottle about half full with cold water
3. Add a few drops of food colouring and give the mixture a stir (don't worry if all of the baking soda doesn't dissolve)
4. Carefully pour in the oil so the bottle is three quarters full
5. Pour in a tablespoon of vinegar or lemon juice and see what happens

What is happening?

Firstly, oil is a hydrophobic, which means it doesn't mix with water, it is a lot less dense which is why it floats on top of the water.

You need an acid and a base to create a reaction that creates the air bubbles. In the alker-selter tablets they have two important components, acetyl – salicylic and bi-carb soda, when the tablet is put into liquid the two form a reaction which then creates a lava lamp effect. If you're doing it with the baking soda (sodium bicarbonate) and the vinegar / lemon juice (acetic acid), it is the same principal, the baking soda is the base and it needs an acid to form a reaction which is the vinegar or lemon juice. The reaction then creates lots of Carbon Dioxide (CO_2) which creates the bubbles.