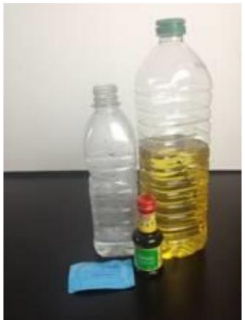
Science@Home

To support children's scientific learning outside of school, each month, I'll be releasing a simple experiment that can be undertaken at home by families. February's experiment is entitled 'The Lava Lamp'.



What do you need:
Small plastic bottle (around 500ml)
Vegetable Oil
Food Colouring
Alka-Seltzer Tablets (any other brand will do!)

How you do it:

1. Cover the bottom of the bottle with around 2cm of warm water.
2. Put the bottle at a 45 degree angle and very gentle pour the vegetable oil in till the bottle is just over three quarters full. The oil and water should both be separate. (Don't worry if you mixed them together, if you did just leave the bottle on the side and they'll soon separate again.)
3. Add about five drops of food colouring into the bottle. Watch how slowly and majestically they fall through the oil and then mix with the water. (You may have to wait for a minute for the food colouring to mix with the water, if it's taking too long try gently tapping the bottom of the bottle till the food colouring breaks through and mixes with the water.)
4. It's time to make our lava lamp! Simply break one of your Alka-Seltzer tablets in half and drop them in! Congratulations you've made your very own lava lamp!

WARNING: Don't put the lid on until your lava lamp has completely stopped bubbling!

Once it's completely stopped bubbling you can put the lid on and then reuse your lava lamp in the future. All you'll need to do this awesome experiment again is a couple of extra Alka-Seltzers!

What's going on?
As you already know oil and water don't like to mix. Oil is less dense than water so the layer of oil sits on top of the layer of water. When your Alka-Seltzer tablet hits the water, it starts giving off bubbles. Those bubbles carry some of the coloured water up through the oil but when they reach the top of the bottle the bubbles can escape. The coloured water is more dense than the oil so if falls back through the liquid. It's also important to say that this experiment can be addictive, I'm struggling to type this while starting at my lava lamp!

Taking your experiment further:
Does hot or cold water make a difference?
How about putting in lots of tablets at once?
Try breaking the tablets up into pieces as opposed to putting them in whole.

If you have any questions or want to share a photo of your colourful creation, I'd love to see it!
Email me at: newzealand@lainesmeadprimary.co.uk

Happy experimenting!
Mrs Smith