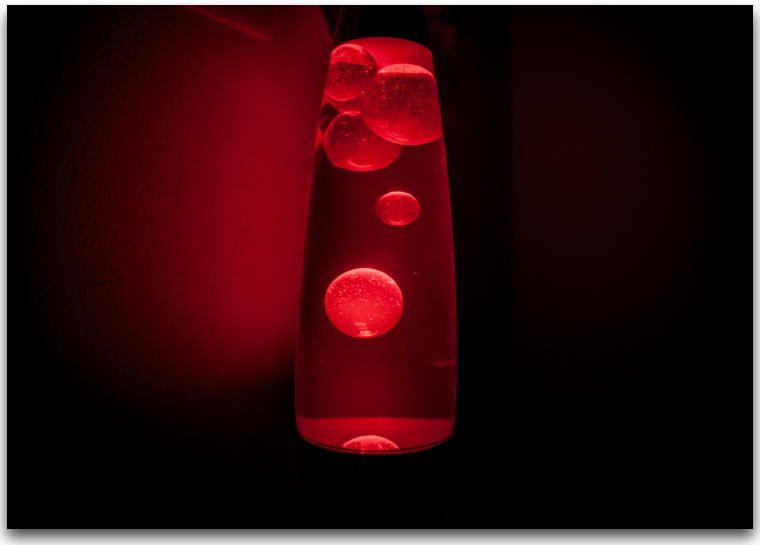
DIY Lava Lamp

Try out this easy kitchen science experiment to make your own lava lamp!



Real lava lamps are made using 2 liquids which have different densities that mean they are unable to mix. When the lightbulb at the bottom of the lamp is turned on, the heavier liquid heats up, and becomes less dense, so it rises to the top of the lamp. As the heavier liquid rises, it starts to cool and becomes denser and heavier again, so it sinks. This heating and cooling takes a while, which is why the liquids inside the lamp move so slowly and have such a calming effect!

You can make your own DIY lava lamp at home using simple materials from the kitchen. It works differently to a real lava lamp, but has a very similar effect!

You will need:

- A glass
- Water
- Vegetable oil or baby oil
- Food colouring
- A fizzy tablet, e.g. effervescent Vitamin C

What to do:

1. Pour 1-2 inches of water into your glass
2. Add your choice of food colouring
3. Pour in 3-4 inches of oil and see how the layers of water and oil stay separate from each other!
4. Drop a fizzy tablet into the glass and watch as the coloured blobs break through the layer of oil and create a lava lamp effect!

Please note - when disposing of your lava lamp, please be sure to pour the oil in the bin and not down the sink!

How does it work?

Here's a video of what it should look like!

You can see that the water and oil layers do not mix by themselves, the mixing only happens when the fizzy tablet is added.

The tablet contains ingredients that create carbon dioxide gas when added to water. The carbon dioxide gas bubbles are less dense than the water, so rise to the top of the glass taking the food colouring with them.

When the bubbles reach the top and pop, the food colouring drops back down to the bottom of the glass!

Share pictures and videos of your lava lamp with us using the hashtag #DynamicEarthOnline