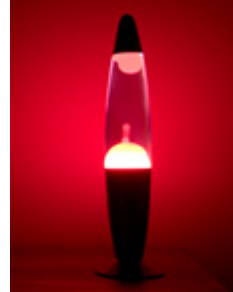


Make your own Lava Lamp

Learn about density

Equipment

- ◇ Plastic drinks bottle
- ◇ Vegetable oil
- ◇ Water
- ◇ Food colouring
- ◇ Alka-Seltzer tablets



Method



1. Fill the plastic bottle $\frac{3}{4}$ full with vegetable oil.
2. Fill the rest of the bottle (almost to the top) with water.
3. Add approximately 10 drops of food colouring.

4. Add about half an Alka-Seltzer tablet and watch the reaction! Just add more of the Alka-Seltzer tablets when you need to. When the Alka-Seltzer tablet dissolves carbon dioxide is released. This nucleates (attaches to) the food colouring and water particles and causes them to float to the top of the soil. Upon reaching the surface the bubbles burst and the coloured water sinks back down.



Note on Lava Lamps

Although this might look a little like a lava lamp, lava lamps usually work with heat. Lava lamps contain two liquids, one of which is more dense than the other when they are both the same temperature and so sinks below it. However when it is heated it becomes less dense than the other when it is heated and bubbles up to the surface.



Where can I find more information?

Find out how a lava lamp works here:

<http://home.howstuffworks.com/lava-lamp.htm>

Find out in more detail lava lamp convection processes here:

<http://scitation.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=PLEEE8000080000004046307000001&idtype=cvips&gifs=yes>

www.rmets.org/experiments