

Lava Lamp in a Glass

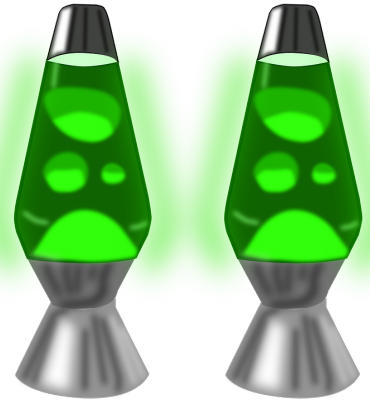
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Lava Lamp in a Glass

Materials

- Baking Soda (~1 tbs)
- Vinegar (1/2 cup)
- Plastic cup
- Vegetable oil (3 cups)
- Food coloring (3 drops)
- Clear tall glass or plastic bottle
- Spoon
- Teaspoon



Procedure

1. Add vinegar and food coloring in the plastic cup, mix with a spoon and set aside
2. Add baking soda to the glass
3. Pour vegetable oil in the glass until it is 3/4 full. Pour carefully along the side and try not to disturb the baking soda.
4. Add 6 teaspoons of colored vinegar in the bottle. If you would like a darker color, add few more drops of food coloring to the vinegar.
5. Enjoy your Lava Lamp effect!

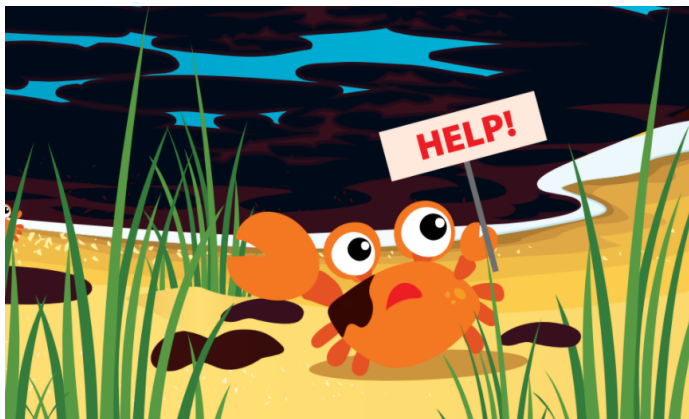
Note: After all bubbles disappear, you can add more colored vinegar.

Did you know? Oil and water do not mix.

When you pour the oil into the glass with baking soda, the oil and baking soda do not mix. This is because not all substances can mix with each other. The molecules of the colored vinegar do not like to mix with the molecules of oil. Food coloring only mixes with the vinegar. It does not color the oil. This is the same as when oil from a ship spills in the ocean. Oil does not mix with water and floats on the surface because water is heavier than oil. Scientists say that the water is denser than the oil.



Vinegar is heavier than oil. As the drops of the vinegar fall through the oil to the bottom of the bottle they react with the baking soda to make carbon dioxide gas.



Riding on a gas bubble

The colored vinegar and the baking soda make tiny bubbles of gas. When the bubbles pop, the color blobs sink back to the bottom of the glass.

Baking soda and vinegar react with each. This is an acid-base reaction. Baking soda is a bicarbonate (NaHCO_3) and vinegar is an acetic acid (HCH_3COO). One of the products of this reaction is carbon dioxide.

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Credits

- Lava lamp experiment:
<https://www.youtube.com/watch?v=Nechp8XpXLM>
- <http://www.sciencemadefunkids.net/experiments.cfm?Exp=9.1>
- Lava lamp picture:
<https://pixabay.com/vectors/lava-lamp-1960s-1990s-green-309695>
- Bubbles:
<https://pixabay.com/illustrations/kids-cute-clipart-cartoon-girls-2798936/>
- Why do baking soda and vinegar react to each other:
<http://scienceline.ucsb.edu/getkey.php?key=4147>