



ART ADVENTURE

Lesson: Lava Lamps

CURRICULUM REFERENCE: Properties of Liquids and Solids

LESSON OBJECTIVE

Create an experiment to see how materials mix and separate from each other.

THE SCIENCE BEHIND

Vinegar is an acid and baking soda is a base. Acids have extra hydrogen atoms, while bases always want more hydrogen atoms. This means that whenever they contact one another, they interact—causing a gas to form. In this experiment, the gas gets caught in the oil and rises slowly to the top.

VIDEO: <https://youtu.be/agCMDoNdHIk>

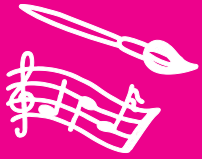
FOLLOW-UP QUESTIONS

1. Why does the oil stay separated when adding ingredients into the lava lamp bottle?
2. As materials are added, are they dissolving into one another? Why or why not?
3. Why does vinegar sink through the oil, but the gas it produces rises?



LEARNING OUTCOMES

- Investigate the properties of liquids.
- Investigate, through experimentation, interactions that occur as a result of mixing and/or dissolving liquids and solids.



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MATERIALS (PER PERSON)

- Empty pop or water bottle
- Oil
- Food dye
- Water
- Vinegar
- Baking soda

INSTRUCTIONS

1. Pour baking soda and water together and fill it halfway up the bottle. Shake to mix.
2. Pour food colouring into a bottle. Twist on the lid and shake.
3. Pour in oil another quarter of the way up the bottle.
4. Finally, pour in the vinegar and get everything mixed up in your lava lamp.

VIDEO: <https://youtu.be/oTMJ8nmGc7s>

