



ART ADVENTURE

Lesson: Lava Lamps

CURRICULUM REFERENCE: Pure Substances and Mixtures

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. How does the amount of oil used affect the experiment?
2. Why does heat affect only some substances?



LEARNING OUTCOMES

- Use scientific inquiry/experimentation skills to investigate the properties of mixtures and solutions
- Distinguish between pure substances and mixtures
- Describe the difference between saturated and unsaturated solutions



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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>

