GRADE 8

EXPLORE

ART ADVENTURE
Lesson: Lava Lamps

CURRICULUM REFERENCE: Fluids

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. Explain the difference between solids, liquids, and gases in terms of density.
2. Why does the oil stay separated from water?

LEARNING OUTCOMES

- Investigate and compare the density of a variety of liquids (e.g., water, salt water, corn syrup, liquid soap)
- Explain how forces are transferred in all directions in fluids

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MATERIALS (PER PERSON)

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