

MINI LAVA LAMPS

Chemistry gets groovy with this DIY lava lamp. Water and oil do not mix because water molecules are polar and oil is non-polar – the different types of molecules don't bond. In the same container, water will settle at the bottom since it is denser than oil. When you add the effervescent antacid tablet, it reacts with water to create carbon dioxide. The gas bubbles bring some colored water up through the oil as they rise, then pop. Since water is denser, the colored water globules settle back down toward the bottom. This process repeats until the tablet is completely dissolved.

MATERIALS

- 2 cups (tall and narrow works best; plastic or glass)
- Vegetable oil
- Water
- Food coloring
- Effervescent antacid tablets (i.e. Alka-Seltzer)

METHOD

1. Fill one glass 2/3 full with vegetable oil.
2. In separate cup, add water and several drops of food coloring. Mix well.
3. Pour colored water into glass with vegetable oil, leaving ~1 inch from the top. Allow contents to separate.
4. Add an effervescent antacid tablet to the water and vegetable oil mixture.
5. Enjoy the show!

TAKE IT BACK TO CLASS

- Try the experiment in a soda bottle, but add a cap. Do you notice any changes?
- You've learned that water and oil don't mix due to different types of molecular bonds, which is why they create separate layers in a container (helped by density). Is there any way to get these ingredients to mix? Try adding dish soap to a container with water and oil - what effect does this have on how the water and oil interact?

SOURCE

<https://funlearningforkids.com>

NOTES

[illegible]