

### SUPPLIES

- Empty Water Bottle
- Funnel
- ½ Cup of Water
- 1 Cup of Vegetable or Baby Oil
- Alka Seltzer Tablets
- Food Coloring



### PROCESS

1. Use the funnel to pour the water into the bottle.
2. Now, pour the oil.
3. Add about 5 big drops of food coloring. Observe how the drops sink all the way to the bottom.
4. Once most of the food coloring has mixed with the water, break the Alka Seltzer tablet in half and drop it in the mix.
5. Observe what happens!

Scan the QR Code to follow along with a MOSH Molecules instructor!



### ***THE SCIENCE***

The reason why an object will sink or float in water is because of its density. An object that has more density than water sinks, but an object that has less density will float. Density refers to how much an object weighs in comparison to its size. For example, an egg sinks in water because it has more density than water, meaning the egg is heavier for its size compared to water.

In our lava lamps, oil is less dense than water, so it floats on top of it. The food coloring is the same density as water, so the oil sinks and mixes with the water at the bottom of the bottle. When you add the Alka Seltzer tablet, it sinks to the bottom and starts to dissolve. While dissolving it creates a gas called carbon dioxide. This gas is lighter (or less dense) than both the water and oil, so it floats to the top. The air bubbles bring some of the colored water with them to the top, but once the gas is released, the water sinks back down thanks to density!

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