Make Your Own Lava Lamp Bottle

**Materials:** empty plastic bottle, water, vegetable oil, food coloring, fizzing tablets (like Alka Seltzer, bath fizzers), funnel or measuring cup (optional)

**Background Information:** There are three common types of matter found on Earth: solids, liquids, and gases. Each type of matter has unique properties and behaves in certain ways. Molecules of liquids tend to be attracted to each other, kind of like how magnets are attracted to one another. Water molecules are attracted to other water molecules and join together to form larger drops and pools of water. Similarly, oil molecules are attracted to other oil molecules. When oil and water are mixed together, the molecules of each will group together and the liquids will layer based on how dense they are. Less dense materials layer on top of materials with greater density. Most gases are even less dense than liquids and tend to float up through liquids to settle on top of them. When gases and liquids are all mixed together, they will naturally move until they are layered most dense on the bottom to least dense on top.

**STEM Career Connection:** A materials scientist is someone who studies the properties of materials and how the materials can be used. They are necessary for all forms of manufacturing and design.


**Challenge:**
1. Gather materials.
2. HINT: Use a funnel or measuring cup to help pour the liquids into the bottle.
3. Pour water into the bottle until it is about ¼ of the way full.
4. Pour vegetable oil to fill the bottle most of the way full.
5. Add about 5-10 drops of food coloring. Observe what happens to the food coloring.
6. Break a fizzing tablet in half and drop ½ of the tablet into the bottle. Observe what happens to the tablet and what is going on in the bottle.
7. As the action in the bottle settles down, add another piece of fizzing tablet to get things going again. Shine a light into the bottle to make it like a lava lamp.

**Source of the Activity:** [https://sciencebob.com/blobs-in-a-bottle-2/](https://sciencebob.com/blobs-in-a-bottle-2/)