Bubbling Concoction

Create a colorful blob in a test tube that shows density and solubility.
In this experiment, you will use some basic ingredients to make a Bubbling Blob. What? You've never seen a Bubbling Blob? It slithers and twists around like a snake. Just when you least expect it, the blob breaks apart into lots of tiny blobs, and then they join back together. It's an incredible demonstration in density and solubility. You'll create a solution that shows why water and oil don't mix, and why simple chemical reactions produce extraordinary results!

Materials
• Baby Soda Bottle with cap
• Vegetable oil
• Color Fizzer tablets
• Flat Fizzer tablets
• Water
Experiment
1. Fill the Baby Soda Bottle with the vegetable oil to the top with room temperature water. If you have already used the bottle with the vegetable oil, fill an empty Baby Soda Bottle with oil up to the cap line, then the rest with water.
2. Push the bottom of the bottle into the open end of the cap so it stands by itself on the table.
3. Drop two Color Fizzer tablets into the Baby Soda Bottle. Remember your color mixing? You only have three colors of tablets, yellow, red, and blue. If you want to make green, drop in a blue tablet and a yellow tablet. Orange, a red and a yellow tablet. Purple, a red and a blue. If you don’t want to mix colors, just drop in two red, two blue, or two yellow tablets. As soon as the tablets pass through the oil and land in the water, a fizzing reaction will start to occur. It’s (almost) just like a lava lamp! Like, totally cool, man.
4. When the bubbling slows down, take a piece of one of the Flat Fizzer tablets to start the reaction again!
5. To slow down the reaction and stop it completely, screw the cap onto the bottle. At this point you have a perfect wave tube inside the Baby soda Bottle. Whenever you want to do the experiment again, however, unscrew the cap and add another piece of the Flat Fizzers. If you are feeling ambitious, try using the Baby Soda Bottle Rack with all six bottles to create the perfect rainbow bubbling concoctions.

How Does It Work?
First of all, you confirmed what you probably already knew: oil and water do not mix. The molecules of water do not like the molecules of oil. They'll truly mix with each other only under special circumstances. Even if you shake or stir the mixture like crazy, the oil breaks up into smaller blobs, but it just won't mix with the water. Also, the Color Fizzers only mix with water. They don't color the oil at all. Blobs of color you see in the oil are just tiny water droplets. When you pour the water into the container with the oil, the water sinks quickly to the bottom and the oil stays on top of the water. You see this when oil from a damaged ship spills into the ocean. The oil floats on top of the water. Oil floats on the surface because water is “heavier” than oil. Scientists say that the water is more dense than the oil so it stays below the oil.
And More
Here’s the surprising part! The Fizzer tablets react only with the water to make tiny bubbles of carbon dioxide (CO2) gas. The tablets fall through the oil without making any bubbles and won’t until the tablet hits the water. These bubbles attach themselves to droplets of colored water and carry them to the surface of the oil. The gas bubbles are less dense than even the oil. When the bubbles pop at the surface, the colored water blobs sink back to the bottom of the container for another ride to the surface. Now, that’s a burst of pop-culture color! Your own homemade lava lamp.

Hypothesis:
- The water and oil might light up
- I think it might smell
- It will fizz
- The oil will split
- It might change colour
- It might explode
- The oil will stay together and the water will take up the rest of the room
- It might make bubbles
- Bubbles will move up and down
- The oil and water will puff up
- It will glow