

# MAKE YOUR OWN LAVA LAMP

## These are the materials we will need:

- distilled vinegar
- any type of cooking oil (I prefer vegetable oil)
- a small clear container (you can use a clear glass or plastic water bottle whatever cylindrical container that you have around the house that is thin and clear works. I am using these tubes for my experiment today)
- food coloring
- funnel
- a teaspoon
- baking soda
- gloves (optional)
- Table
- plastic table cloth (sometimes science can be a bit messy so be sure that when doing experiments, you are using a space that is okay to be a bit messy in and taking precautions, like putting down a table cloth)

## Now that we have all our materials let's start making some lava lamps.

**Step 1:** Fill your container about 1/3 of the way up with vinegar. Add a few drops of food coloring. Depending on the size of your container you will add different amounts of vinegar, so you can decide how much food coloring looks best for your container.

**Step 2:** Now fill your container up another 1/3 of the way with oil. The oil may fall into the vinegar but will separate out in a few seconds. Did you know that oil is less dense than vinegar? Due to their different densities, oil will always sit on top of vinegar when both are poured into the same container. Your container should now be 2/3 of the way full.

**Step 3:** Let's see if we can use science to mix these two liquids around! Measure out 1/4 teaspoon of baking soda. If you are holding the container and you are not able to set the container down on the table, like mine, now would be a good time to put on some gloves if you are worried about your hands getting dyed with food coloring.

**Step 4:** Place a funnel on top of your container. If you don't have a funnel it's okay if you pour the baking soda directly into the container and some of the baking soda falls onto the table. Carefully pour the baking soda into the container and remove the funnel.

**Step 5:** Watch! The baking soda will make its way through the oil layer, hit the vinegar layer and start to react. You can see bubbles are forming and making their way to the top creating your very own lava lamp. Let's talk a bit about what's happening. When vinegar and baking soda are combined a chemical reaction occurs. A chemical reaction is when two or more materials are combined, and a new material is created. In this case, carbon dioxide gas is created. The gas has to escape and the only way it can is through the top of the container, so it rises to the top and bursts open into the air. The bubble activity is causing the oil and vinegar to mix, creating the lava lamp look. I don't normally encourage smelling science experiments, but if you give this one a smell it smells a bit like pop! Carbon dioxide gas created in this experiment is the same gas that gives pop its fizziness. I wouldn't suggest drinking this experiment though!

**Step 6:** Time to play!! You can keep adding baking soda until the reaction stops occurring and do the experiment over and over until you run out of ingredients or your science experimenting time is up.

**Step 7:** Clean up! You always want to be sure that when you make a fun science mess you also clean up the fun science mess.