

**Lava Lamp**

**3-5**

**Estimated Time**: 30 minutes

# **Materials (per student):**

* Empty water bottle
* Vegetable oil
* Food coloring
* Water
* Alka-Seltzer tablet

# **Instructions:**

1. Fill each empty bottle about ½ to ¾ of the way full with oil.
2. Fill the rest the way with water until about 2 inches from the top.
3. Put in 4-5 drops of food coloring into each bottle.
4. Break the Alka-Seltzer tablet into 4 pieces and drop a piece of the antacid tablet into each bottle and watch all the bubbles start up and float all around like a lava lamp.
5. After the tablet is dissolved, and the bubbles calm down, add another tablet to the bottles and repeated the lava effect.

# **Possible Variations:**

Add other colors of food coloring to change the look of the lava lamp

# **Science Behind the Project:**

The oil and water will stay separated because they cannot form chemical bonds together. So once everything settles, you will always see the colored water at the bottom of the bottle, and the oil on top. The Alka-Seltzer contains sodium bicarbonate and citric acid. When you mix these two ingredients with water, they combine to produce carbon dioxide. The carbon dioxide creates the water bubbles that float up through the oil (aka the lava). Then, as the chemical reaction slows down, the water bubbles fall back to the bottom.