

# STEM ACTIVITY

## Lazarus

Total Time: 20 minutes  
In Class Time: 10 minutes

### You will need:

- White vinegar
- Baking soda
- Vegetable oil
- Food coloring dye
- Two glass jars or cups
- Spoon



**STEP 1: TEACH:** Jesus raised Lazarus back to life through the power of the Holy Spirit. Isn't that amazing? We are going to do something much simpler. We are going to raise some color from the bottom of our glass through the power of chemistry.

**STEP 2:** Drop a few large spoonfuls of baking soda into the bottom of a jar. It should completely cover the bottom and form a layer about a quarter-inch (.5 cm) thick.

**STEP 3:** Pour vegetable oil into the jar over the baking soda. Fill it to three-quarters full.

**STEP 4:** Fill a second jar or cup to one-quarter full with vinegar. Then add 15-20 drops of food coloring.

**STEP 5:** Pour the colored vinegar into the jar of oil. The vinegar will sink through the oil and react with the baking soda, creating a "lava lamp" effect.

## EXPLAINING THE SCIENCE:

Vinegar is an acid (mixed with water). Baking soda is the opposite: a base. When these two opposites react, they form water and carbon dioxide, which forms gas bubbles that carry the vinegar to the surface of the oil. When the gas bubbles separate from the vinegar at the surface and escape the oil, the vinegar sinks again to react with the baking soda all over again.