

# UNDERSTANDING DENSITY

## Materials:

- Empty Plastic Bottle with Cap
- Water
- Cooking Oil
- Syrup or Honey
- Food Coloring (optional)



## Procedure:

1. Fill the bottle with equal amounts of honey/syrup and oil. Then fill the remainder of the bottle with the water (you can add food coloring after the water, if desired) and then close the cap tightly.
2. Turn the bottle upside down and observe what is happening between the oil, syrup/honey, and water.

## What is going on?

Density is a measurement that compares the amount of matter an object has to its volume. An object with a lot of matter in a certain amount of volume has high density. An object with a little matter in the same amount of volume has a low density. When the bottle is moving upside down, the water will be at the bottom. Quickly, the water will settle down and the oil will go up. In a reservoir, gas will be at the top, oil will be under the gas, and water will be under the oil. This is because of the difference in density.