

## Density Column Lab - Part 2 Worksheet

The goal of this lab is to determine the densities of oil, water and corn syrup.

1. Make your predictions: Rank the three items based on their predicted densities (1 = least dense, 3 = most dense).
2. In the table below, write in the densities that you calculated from the Part 1 lab.

| Object        | Density Prediction Rank |
|---------------|-------------------------|
| water         |                         |
| vegetable oil |                         |
| corn syrup    |                         |

| Object         | Density (g/ml) |
|----------------|----------------|
| marble         |                |
| Popsicle stick |                |
| pasta          |                |
| crayon         |                |

3. On the back of this sheet, draw a diagram that ranks your prediction for all the five items (three liquids and four solids) on their densities in relation to each other.

### Procedure

First, make a density column with the three different liquids. Make each layer 30 mL in volume. Calculate the density of each liquid. Use one graduated cylinder for measuring the mass and volume of each liquid. Use the other graduated cylinder as the density column and put all the liquids and objects in it.

| Liquid        | Mass of empty cylinder (g) | Mass of liquid in cylinder (g) | Mass of liquid (g) | Volume of liquid (ml) | Density (g/ml) |
|---------------|----------------------------|--------------------------------|--------------------|-----------------------|----------------|
| water         |                            |                                |                    |                       |                |
| vegetable oil |                            |                                |                    |                       |                |
| corn syrup    |                            |                                |                    |                       |                |

At your lab station, you have the four different objects you measured. In any order, add all four objects to the density column. Next add the detergent. Describe what happened:

**Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Class:** \_\_\_\_\_

Graph the density of all the liquids and objects. Discuss why objects had larger densities and how the volume and mass both affect the density.