

density tower



Rubbing Alcohol (green food color)

Vegetable Oil

Water (purple food coloring)

Dish Soap

Whole Milk (pink food coloring)

100% Real Maple Syrup

Corn Syrup (green food coloring)

Have you ever heard the phrase “like oil and water” to describe two things that don’t mix? Oil and water aren’t the only things that don’t mix. You can explore how different liquids with different densities can stack on top of one another when you make a density tower.

What is density?

Density is the degree of compactness of a substance (how tightly packed the substance is.) If you have two objects that are the same size, but one is more dense than the other, that object has more mass. That means it will be heavier and have more gravity than the less dense object.

With this activity, you will explore how some fluids, like corn syrup, are extremely dense; making it harder for other fluids or objects to penetrate them.

Materials:

- Tall Clear Glass or Graduated Cylinder
- Corn Syrup
- Real Maple Syrup (optional)
- Whole Milk
- Dish Soap
- Water
- Vegetable Oil
- Rubbing Alcohol
- Food coloring (optional)

Instructions

1. Start by measuring out each liquid into a small container to make it easier to pour into the larger glass.



2. Starting with the corn syrup, and moving right (from the above containers), carefully pour each fluid into the larger glass container down the side of the container. You may want to use the back of a spoon to help pour the liquid.

3. As you build up each layer, see how the different fluids interact at the intersection points.

4. Once you have your tower built, you can begin to explore how different objects float or sink in the different liquids.

5. Try dropping various substances (small toys, beans, paperclips, etc.) into the density tower and observe what happens. What does this show about the density of those materials vs. the density of the fluids?

Pictured Right: A blueberry stuck in the dish soap layer

