

Measuring Density with Food

WHAT STUDENTS WILL LEARN

In this experiment, students will demonstrate density by adding seven layers of food and liquid to a beaker and observing how they separate and settle.

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WHAT YOU'LL NEED

- ◆ Ice
- ◆ Small marshmallows
- ◆ Chocolate chips
- ◆ Light corn syrup
- ◆ Vegetable oil
- ◆ Cooking sherry
- ◆ Food coloring
- ◆ Water
- ◆ Four volumetric flasks
- ◆ Beaker or tall clear glass

WHAT YOU'LL DO

1. Measure 100 mL of water.
2. Add 3 drops of food coloring into the water and mix.
3. Measure 100 mL of corn syrup. Repeat with vegetable oil and cooking sherry.
4. For each liquid (water, corn syrup, vegetable oil and cooking sherry), hypothesize the approximate density of each liquid and slowly add them to your beaker (or a tall clear glass) one at a time.
5. Allow the liquids to settle and separate into their distinct layers (3-5 minutes).
6. Notice how the liquid layers separate based on their density. Those with the highest density will go to the bottom and the least dense will go to the top.
7. Next, predict which of the solids is the most dense and which is the least dense, then add them in any order into the beaker with the liquids.
8. Observe how the seven layers of liquids and solids shift and settle based on their density. Again, those that are the least dense will rise higher in the beaker than those that are more dense.

