

OIL AND WATER

EXPERIMENTS

Make a Rainbow in a Jar



Spoiler alert! What liquid is on the top?

Ingredients

- 1) Honey
- 2) Light corn syrup (add food coloring)
- 3) Blue or green dish soap
- 4) Cooking oil
- 5) Rubbing alcohol (add food coloring to contrast with the dish soap)

You'll also need:

- A tall clear container with a tight-fitting lid
- A pipette or a drinking straw
- A permanent marker or grease pencil

Step 1: Prepare your container.

Measure the height of your container and divide by six. Give the oil two times as much space as the other ingredients. Mark the portions on the container with the marker.

Step 2: Prepare your ingredients.

Determine your color scheme and add food coloring to the clear liquids. Note: cooking oil is not clear, AND it won't mix with food coloring.

Step 3: Slowly pour each ingredient in the order they are listed above.

Aim for the center of the container as you pour ingredients 1 through 4.

Don't pour number 5 into the center! The alcohol needs to be gently dripped down the inside wall of the container using a pipette or a drinking straw. (See how to use a straw as a pipette below.)

Something unexpected is going to happen! See if you can guess by looking at the finished Rainbow in a Jar photo.

What is happening? Here's the science: The liquids remain separate because their densities are different. The ingredients are added in order so that the most dense liquid is on the bottom. Oil is the least dense of the liquids, so it floats to the top.

How to use a straw as a pipette: Put one end of the straw into the alcohol and cover the other end firmly with your finger. This creates a small vacuum that holds liquid in the straw. Lift your finger from the straw to release the liquid to gradually transfer liquid from one container to the other.

Don't miss the fun!
Experiments should always have parental participation.



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