

## Stackable Rainbow

 20 Minutes



### Instructions:

1. In a small bowl, measure  $\frac{1}{4}$  cup of corn syrup or honey and add one drop of red food coloring and one drop of blue food coloring. Stir until combined. This will create a purple color liquid.
2. Pour the purple liquid carefully into the tall jar.



3. Add  $\frac{1}{4}$  cup of blue dish soap to the tall jar.



4. In a small bowl, measure  $\frac{1}{4}$  cup of water and add a few drops of green food coloring. Mix until combined.
5. Carefully pour the green liquid into the tall jar.



**Tip:** When pouring in the green liquid, tilt the jar so the liquid runs down the side of the jar slowly.

6. Wait a few moments and then slowly pour  $\frac{1}{4}$  cup of olive oil into the jar.



**Tip:** Again, be very careful when pouring in the liquid. Make sure to tilt the jar and pour very slowly so the colors don't mix.

7. In a small bowl, measure  $\frac{1}{4}$  cup of rubbing alcohol and add a few drops of red food coloring. Mix until combined.

### OVERVIEW

Create a liquid rainbow and discover how some ingredients don't like to mix.

### SUPPLIES NEEDED

- A tall glass jar that can hold  $1\frac{1}{2}$  cups of liquid
- $\frac{1}{4}$  cup measuring cup
- Spoon for mixing
- $\frac{1}{4}$  cup Rubbing alcohol
- $\frac{1}{4}$  cup Corn syrup or honey
- $\frac{1}{4}$  cup Olive oil
- $\frac{1}{4}$  cup Blue dish soap
- Food coloring: red, blue and green
- small bowls for mixing

### ONLINE RESOURCES

- [Instructional video link](#)

## Stackable Rainbow

(continued)

8. Carefully pour the red liquid into the tall jar.



**Tip:** Tilt the jar and pour slowly. Otherwise the colors will mix together and you won't get a distinct rainbow.



### Think About It

How Does the Rainbow in a Jar Science Experiment Work?

What keeps all these layers separated from each other?

The liquid rainbow works because each liquid has a different density. The corn syrup is heaviest, and sits nicely on the bottom. The dishwashing soap is not quite as heavy as the corn syrup, but it's heavier than the olive oil, and so on. Layering them from heaviest to lightest from the bottom up ensures that the rainbow maintains its separate lines.



### Take it up a notch

What if you had added the layers in the reverse order? Would you still see a rainbow? Try it. What if you changed the colors around but added each liquid in the original order? Go for it. What happens if you mix your rainbow with a spoon? No matter which new experiments you attempt, be sure to record your results to learn even more about density.