

Layered liquids

Find out how some liquids separate into layers, and how you can make them mix together.

144 Three-in-one

1. Put four tablespoons of water in a tall glass and add a few drops of food dye.
2. Add four tablespoons of vegetable oil to the glass. Don't stir the oil and water.
3. Then, add four tablespoons of golden syrup. Don't stir it, and watch what happens.

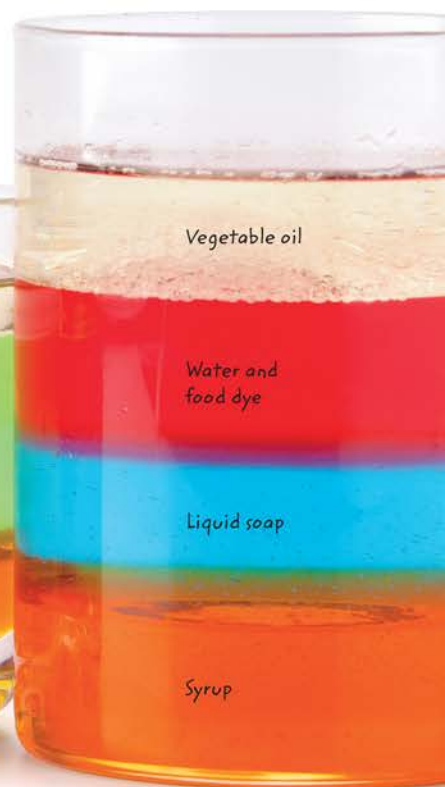
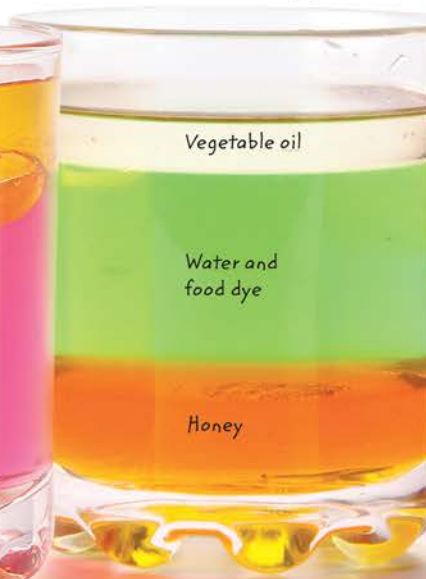
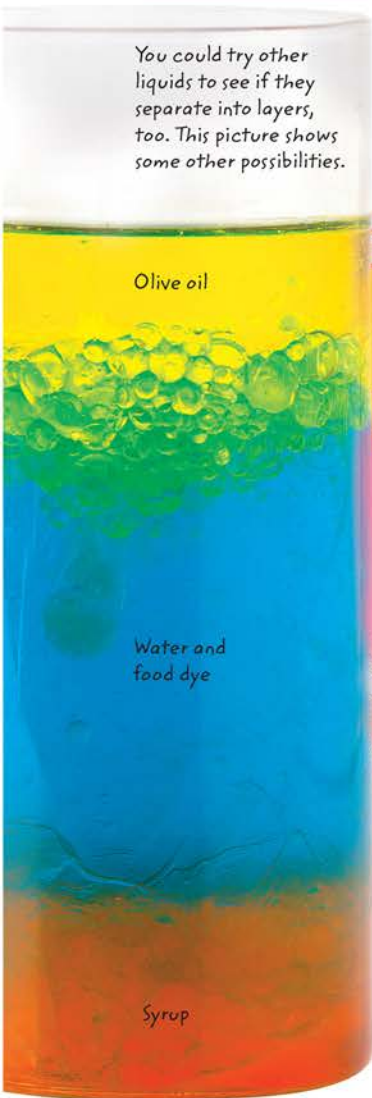


When water, oil and syrup are put together, they separate into layers. The layers form according to how dense the liquids are (how heavy and how spread out the particles inside them are – see the “Density” box on page 5). Oil is less dense than water or syrup, so it sits on the top. Syrup is more dense, so it sinks to the bottom.

You could try other liquids to see if they separate into layers, too. This picture shows some other possibilities.

145 Stir it up

Repeat activity 144, but stir the oil, water and syrup well with a spoon. Leave the mixture for five minutes. What happens?



146 Different order

Add water, syrup and oil in a different order. Does it make any difference to the end result?

Whichever way you introduce oil, syrup and water; or try to mix them, eventually they will always separate into layers, with the oil on top and the syrup at the bottom.



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