



Mix - How come some liquids don't mix?

Fact

- When you make a “traffic light drink” you use berry cordial, orange juice and food colouring. These liquids will mix when you stir them but will sit separately if you pour them into the glass carefully.
- And that’s because heavier denser liquids sink to the bottom and lighter liquids float. The thick berry cordial is heavier and denser than the orange juice so it sinks to the bottom. The food colouring is lighter and less dense than the orange juice so it sits on the top.
- Liquids will always arrange themselves according to weight. Oil is lighter than water so when you try to mix the two together the oil sits on the top.
- Some liquids don't mix because they tiny little bits that make up the liquids don't like each other – they're repelled by each other and push away from each other so they separate out.

Do you know

- When an oil tanker has an accident at sea and oil spills into the ocean the oil can be seen floating on top of the water. This is very helpful for the clean up process. Companies use different kinds of matting to soak up the oil from the top of the water as quickly as they can
- Shaking or stirring will mix most liquids together for a while but if the liquids have bits that don't like to mix the liquids will soon separate again.

Experiments you can do

Make a traffic light drink

What you need:

A tall glass

Ice

Berry cordial

Orange juice

Green food colouring

What you do:

Fill your glass with ice. Carefully pour in the berry cordial until the glass is a third full. Slowly pour the orange juice into the glass so it sits on the berry cordial. Then tip a little bit of food colouring in. Let the food colouring spread out into the orange juice.

If you gently push a straw into the drink down the side of the glass watch what happens to the food colouring and orange juice.

The liquids will stay separated for quite some time unless you stir them up or drink them.

Other Investigations

Make some mayonnaise