



Anisha's school is hosting the National Schools Science Fair and whoever has the **best experiment** wins an **amazing prize**. Actually, not just amazing, it's an intergalactic prize – a trip to a national space centre! And the winner gets to meet a **REAL-LIFE ASTRONAUT!** How cool is that?

Here's an idea for an experiment you could try at home to find out how liquids separate into layers, and how you can mix them together.

You will need:

- An apron to wear
- A glass or clear cup
- Water
- Food dye
- Runny honey or golden syrup
- Vegetable or sunflower oil
- Washing up liquid

Instructions:

1. Put four tablespoons of water in a tall glass and add a few drops of food dye.
2. Add four tablespoons of oil to the glass. Don't stir the oil and water!
3. Squeeze or spoon some runny honey or golden syrup into the glass. Don't stir it, and watch what happens.
4. Admire your liquid rainbow!

What's going on?

When water, oil and honey or syrup are put together, they separate into layers. The layers form according to how dense the liquids are. Density means how much "stuff" there is in something. Not its weight or size, but how many atoms it has in it. Oil is less dense than water or syrup, so it sits on the top. Syrup is denser, so it sinks to the bottom. Whatever you do, don't try drinking it!

STIR IT UP

Repeat the activity above, but this time, stir the oil, water and syrup or honey well with a spoon. Leave the mixture for five minutes. What happens?

DIFFERENT ORDER

Add the liquids in a different order. Does it make any difference to the end result?

