

THE LAB

Three things to make and do

WARNING!
Use gluten-free baking powder if you are gluten intolerant.



1 Make a colour-changing liquid

Try some cool cabbage chemistry that will surprise your friends. It's a kind of magic!

What you need

- 1 red cabbage
- Chopping board
- Knife
- Saucepan
- Sieve
- Jug
- 3 empty jam jars
- Tablespoon
- Lemon juice
- Baking powder
- White vinegar



1 Ask a grown-up to help chop up the cabbage. Place the pieces into a saucepan then cover with water and bring to a boil.



2 Let the mixture cool, then place the sieve over the jug and strain the cabbage water through it. Use left-over cabbage in soups or salads.



3 Carefully pour the cabbage water into jam jars, making sure there is an equal amount in each one. Arrange them in a line.

How does it work?

Red cabbage juice is a pH indicator – a substance that changes colour when it is mixed with an acid or alkali (the chemical opposite of acid). If you add an acid to the cabbage juice, it turns pinkish-red. The redder the solution is, the more acidic that substance is. However, if you add an alkali to the cabbage juice, the solution goes greenish. Purple cabbage isn't the only plant with this magical, colour-changing property. Beetroot, blueberries and hibiscus plants are also pH indicators.



4 Into one jar, add four tablespoons of lemon juice and stir with a spoon.



5 Into the next one, drop two tablespoons of baking powder. Give it a good stir.



6 Finally, add two tablespoons of vinegar to the last jar of cabbage water and stir. Watch carefully.