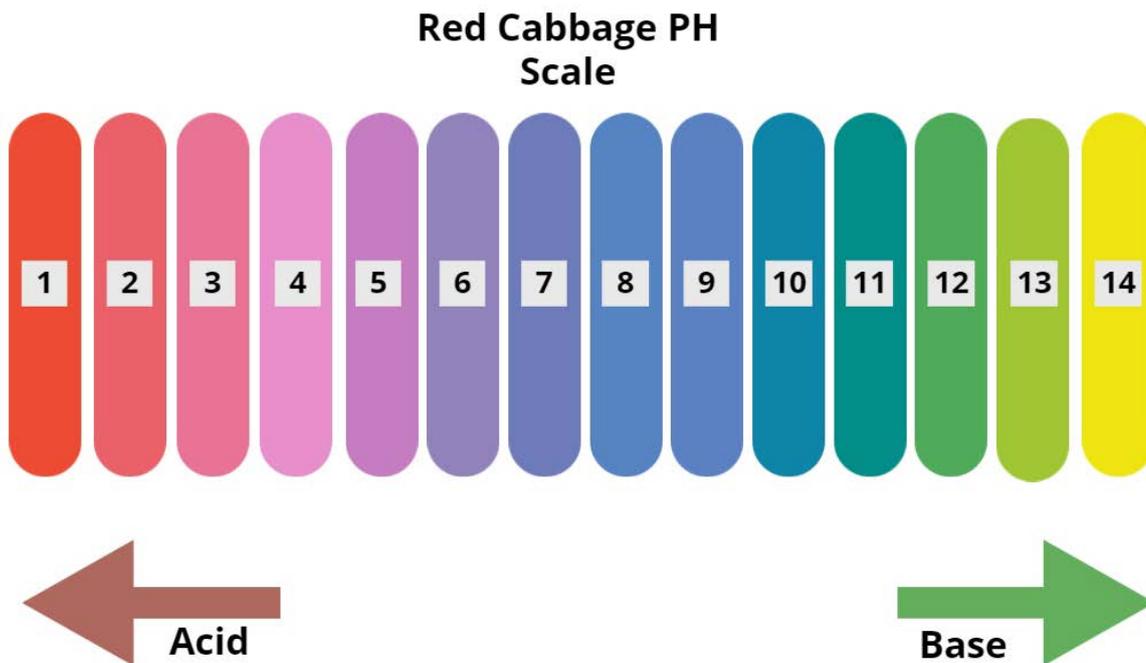


# Acids and Alkalis

There are lots of chemicals in nature and our houses. Some are acids and some are alkalis.

Scientists use something called the pH scale to show whether they are acidic, neutral or alkaline and how strong the acid or alkaline is.

The scale goes from 0-14. The strongest acids are PH0 and the strongest alkalis are PH14. PH7 is neutral, it is neither acidic nor alkaline. A sour taste can suggest something is acidic, like lemon or vinegar. If something tastes bitter it may be alkaline, such as bicarbonate of soda or over ripe bananas.



Very strong acids and alkalis can be dangerous and can burn our skin. We should never handle them without protective equipment and help from an adult.

Our bodies also use acids and alkalis. Our stomachs use acid to help us digest food and to kill bacteria. Our pancreas uses an alkali to help with digestion.

# Let's experiment!

We can find out whether a chemical is an acid or an alkali using a PH indicator. Red cabbage is a natural indicator.

## You will need

- A red cabbage
- Knife
- Heat source
- Water
- Saucepan
- Sieve
- Jug
- Containers, jars or glasses
- Household chemicals to test. I used lemon juice, fruit juice, bicarbonate of soda, dish soap, vinegar, water, sour sweets, sugar and salt solutions. You could also try cleaning fluid with adult supervision. Always ask before using a household chemical.

## What to do

1. Cut up the red cabbage into strips.
2. Put the cabbage into your saucepan and cover with water. Simmer on a medium heat for 15-20 minutes.
3. Strain the purple liquid into a jug using your sieve.
4. Pour an amount of the cabbage indicator into your containers. You will need a container or glass for each chemical you are going to test.
5. Add small amounts of your household chemicals into the glasses.
6. In an acid the solution will turn pink or red. In an alkali I will turn green or yellow.
7. See what colours you can make. Can you put the scale in order?

