



# pH Indicator

Let your curiosity bubble to the surface in this intriguing lesson in chemistry! "pH Indicator" is an exciting experiment which lets you use cabbage to test how acidic or basic different substances are. You'll be left amazed as you become an inspired chemical scientist!

## Materials

- 🚀 1½ red cabbage
- 🚀 Knife or blender
- 🚀 Kettle
- 🚀 Sieve
- 🚀 Saucepan
- 🚀 Jug
- 🚀 4-6 small cups



## Method

**Step 1:** Chop half of the red cabbage into small pieces and place them in a saucepan.

**Step 2:** Use the kettle to boil enough water to cover the cabbage. Once covered, leave the cabbage and water for 10 minutes.

**Step 3:** Pour the water and cabbage through the sieve, so that just the (now coloured) water pours into the jug.

**Step 4:** Leave the coloured water (the pH indicator) to cool for at least 30 minutes.

**Step 5:** Pour 50-100 ml of the indicator into each small cup and test different household substances by adding them to the indicator.

## What is happening? The Science explained.

A pH indicator is used to test the pH of different substances. It will change colour depending on whether you add an acid or base (alkali). Red cabbage contains a water-soluble pigment called flavin (an anthocyanin). Neutral solutions result in a purple-ish colour, while acidic substances will result in a red colour, and basic substances will result in a yellow colour (the different shades will depend on the strength of the acid or alkali tested). *Stop & Think: What happens if you blow into your indicator with a straw?*

