



# The pH Scale: Measuring How Acidic or Basic Things Are

KS4 CHEMISTRY

Ages 11-14 ⏰ 3 min read

## What is the pH Scale?

The **pH scale** is a tool that measures how **acidic** or **alkaline** (basic) a substance is. The letters "pH" stand for "**potential of hydrogen**", which is a fancy chemistry way of saying how many hydrogen particles are floating around in a liquid.

The scale runs from **0 to 14**. A pH of **7** is perfectly neutral—neither acidic nor alkaline. Anything below 7 is acidic, and anything above 7 is alkaline. The further away from 7 you go, the stronger the acid or alkali.

Think of it like a temperature scale, but instead of measuring hotness and coldness, it measures how "sour" or "bitter" something is.

## What Are Acids and Alkalis?

**Acids** are substances that taste sour and can be corrosive. Lemon juice, vinegar, and stomach acid are all examples. They score low on the pH scale—lemon juice is around **pH 2**, for example.

**Alkalis** (or bases) are the opposite. They taste bitter and feel slippery. Soap, baking soda, and bleach are alkalis. These score high on the pH scale—bleach is around **pH 13**.

## How Do You Measure pH?

Scientists use special tools called **pH indicators** to test the pH of substances. The most common tool is **pH paper** or **litmus paper**—thin strips that change colour when they touch a liquid. You dip the paper in your substance, and it turns a different colour based on how acidic or alkaline it is. You then match the colour to a chart to find the exact pH number.

For more precise measurements, scientists use electronic devices called **pH meters**. These are like thermometers but for acidity. You place a special sensor in the liquid, and the meter displays the exact pH number on a screen.

Think of pH paper like a mood ring for liquids—it changes colour to tell you what "mood" the substance is in.

## **Why Does pH Matter?**

pH is incredibly important in science and everyday life. Farmers test the pH of soil to know what crops will grow best. Pool owners measure pH to keep the water safe for swimmers. Even your body needs to keep a certain pH balance to stay healthy. Understanding pH helps us understand chemistry and protect our environment.