

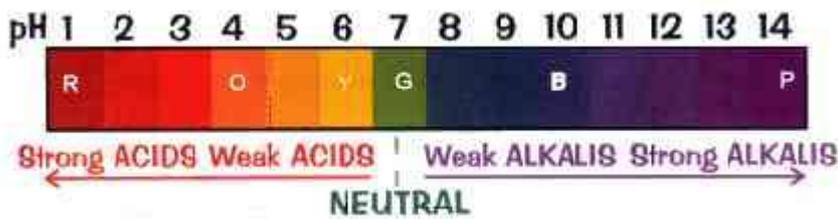
ACID RAIN EXPERIMENT

Why don't you take part in an experiment to test the rainwater in your area for acid? Acid rain is a big problem! We put lots of chemicals, such as sulphur, into the atmosphere during our daily lives. It mixes with the water in the atmosphere to make acid rain. This kills plants and water creatures in rivers and lakes.

We measure acidity/alkalinity on the pH scale. (Parts of hydrogen or hydrogen potential)

The pH Scale

The pH scale is a measure of how acidic or alkaline a substance is. The scale goes from 1 to 14. The diagram shows the colour that Universal Indicator changes to for different pH values.



(R=Red, O=Orange, Y=Yellow, G=Green, B=Blue, P=Purple) Here is a key to what the numbers mean:

1. Put outside a clean jam jar.
2. Allow rain to fall into it.
3. Take your indicator paper and dip one end in the rainwater.
4. Look at the chart to see which colour it is nearest to.
5. Record your results.

- pH 1 to pH 3 show that there is a **STRONG ACID**
- pH 4 to pH 6 shows that there is a **WEAK ACID**
- pH 7 shows that the substance is **NEUTRAL** (not acidic or alkaline)
- pH 8 to pH 10 shows that there is a **WEAK ALKALI**
- pH 11 to pH 14 shows that there is a **STRONG ALKALI**

Where do I find acids and alkalis?

Lots of everyday substances contain acids or alkalis:

Acids are found in:

- citrus fruits (lemon juice, orange juice)
- vinegar
- car batteries (sulphuric acid)
- your stomach (hydrochloric acid)



Rainwater is a little acidic, but pollution (e.g. sulphur dioxide) from burning fossil fuels may make it even more acidic, forming acid rain.

When acids are present in food, they usually taste sour (think of the taste of lemon juice or vinegar). Strong acids are very dangerous.

Alkalis are found in:

- oven cleaner (sodium hydroxide)
- soap
- cleaning fluid e.g. spray-and-wipe (ammonia)

Notice the connection between these substances? Alkalis are often found in substances for cleaning. Strong alkali substances are just as dangerous as strong acidic substances, causing very serious burns if they come into contact with your skin.

My results show that the rainwater in my jar had a pH value of.....