

Soil pH

Introduction

Gardeners sometimes find that their plants do not grow very well. This is often because the pH of the soil is not suitable for a particular plant. For example, the beautiful rhododendron shown in the picture will only grow in acidic soil.

In this activity you will be using your research skills to find out about:

- soil pH
- soil-testing kits
- how to change soil pH.

You will be using your literacy skills to prepare a leaflet for gardeners explaining why they might need to test their soil pH and giving them instructions on using a soil-testing kit.

Brief

You are going to make a leaflet for gardeners explaining why they should test the pH of their soil.

Your leaflet should:

- explain what pH is and what the values mean
- explain why gardeners should test their soil pH
- explain how to test soil pH
- advise gardeners what to do if the pH of their soil is too high or too low
- fit on one folded sheet of A4 paper
- use language that can be understood by the general public and people who do not have a good understanding of science.

Step 1

Find out what happens to plants if the soil pH is too high or too low. Find some examples. Use this information to persuade gardeners that it really is worth testing the soil.

Step 2

Find out what is contained in a soil-testing kit and how it should be used. In your leaflet you will need to give gardeners instructions on using a soil-testing kit and advise them what to do if the pH is wrong.

Step 3 (extension)

Find some information about why soil pH affects different plants in different ways. Refer to the nutrients that plants need.

Step 4

Plan your leaflet.

Step 5

Now make your leaflet. Make sure that it is useful for gardeners who do not understand about the importance of soil pH.

Sources

Why and how to test soil pH

Website for gardeners to help them grow plants more successfully:

<http://www.enjoy-your-garden.com/soil-ph-test-kit.html>

Changing the pH

Website describing what to do if the soil pH is wrong:

<http://www.sunset.com/garden/garden-basics/acid-alkaline-soil-modifying-ph-00400000015165/>

Soil, pH, and plants (extension)

This website has detail about the effect of pH and how to change it. It describes the best pH for some different plants:

<https://www.rhs.org.uk/advice/profile?pid=239>

Writing frame

Write a convincing argument here to persuade gardeners to test their soil pH.

Use the areas below to help you structure your argument.

Explain what pH is and what the values represent.

Give some examples of plants that are very sensitive to pH. What pH values do they need?

Write instructions here for using a soil testing kit.

Describe what to do if the pH of the soil is not suitable for the plants. How can pH be raised or lowered?

Round off your work with a summary that outlines the benefits of growing plants at the right pH value.

Plan for the order of paragraphs

Important points

- Use appropriate language that can be understood by people who have no scientific knowledge.
- Make sure your text is easy to read and persuasive.

Your work

You have made a leaflet for gardeners explaining why they might need to test their soil pH and giving them instructions on using a soil-testing kit.

Look at the questions below and think about whether you have met the brief.

- Have you included a clear, accurate scientific explanation of pH?
- Have you given convincing reasons why gardeners should test the pH of their soil?
- Have you given some examples of plants that will not grow well at particular pH values?
- Are your instructions for using a soil-testing kit clear and helpful?
- Have you explained what gardeners can do if their soil pH is wrong for the type of plants they are growing?
- Have you given a summary saying how much better the plants will be if grown at the right pH?
- Does your leaflet fit on one folded sheet of A4 paper?