

# HOW DOES YOUR GARDEN GROW?



## LESSON 1: WHAT DO WE KNOW ABOUT PLANTS?

### Key vocabulary:

plant, roots, stem, trunk, leaf/leaves, flower, function, question

### Resources:

A flowering plant in a pot, such as a geranium, sticky notes or index cards

### LESSON SUMMARY:

In this lesson children will be able to share what they have previously learned about the parts of flowering plants and their different functions. This builds on the work in the Year 2 Plants module and links with the ongoing Our Changing World module. By the end of the lesson children will have gathered questions to explore during the remaining lessons.

### National curriculum links:

Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers

### Learning intention:

To describe what we know about the different parts of plants and to ask questions about plants for further investigation

### Scientific enquiry type:

Exploration

### Working scientifically links:

Asking relevant questions and using different types of scientific enquiries to answer them

### Success criteria:

- I can identify the parts of a plant.
- I can describe some of the functions of those parts.
- I can ask questions about plants.

### EXPLORE

Show the children a potted plant with roots, stem, leaves and flowers and talk about the different parts. Show slide 1 of Slideshow 1, which shows images of six different flowering plants.

Ask children to discuss the images in pairs.

Ask children: *What do all the plants have in common? What differences are there between them? What do the plants need in order to grow and stay healthy?* Collect key words that they use and write them on the board.

### ENQUIRE:

Tell the children that they will be carrying out a challenge to demonstrate what they already know about the different parts of flowering plants. The challenges are differentiated by outcome, with Challenge 2 requiring greater detail than Challenge 1. Explain that they are drawing a diagram to show what they know about plants. They do not need to include colour, background and so on.

Challenge 3 requires children who know about the function of some of the main parts of a plant to apply their understanding to the whole organism. They do this by completing a whole-parts relationship graphic organiser. They will need copies individually or to share Resource sheet 1. A graphic organiser is a visual framework that helps children to identify functional relationships within a system, in this case a flowering plant.

Tell the children that they will need to think about what plants need to grow in order to help them work out what the different parts do.

**Challenge 1** Children draw a diagram of a flowering plant and label all the parts they know.

The children draw a diagram of a flowering plant with labels to show which parts they know. Question children about their drawings.

Ask children: *What is this part called? What do you think this part does to help the plant to grow and stay healthy?*

**Challenge 2** Children draw a diagram of a flowering plant with labels to show all the different parts they know and to explain what they do.

The children draw a diagram of a flowering plant with labels to show all the different parts they know and their functions.

Ask children: *What other plant parts can you name? What do you think this part does to help the plant to grow and stay healthy?*

### Key information:

It is important for children to recognise that they are all examples of flowering plants and that part of the plant is hidden below the ground. It is not necessary for them to know all the functions of the different parts of the plant. The purpose of the discussion is to elicit children's current knowledge, so do not offer information beyond that provided by the children.

### Key information:

In Year 2 children will have learned that plants need water, light and a suitable temperature to grow. They may need to be reminded of this.

**Challenge 3** Children complete the whole-parts relationship graphic organiser for a flowering plant.

Give children copies of the Flowering plant graphic organiser (Resource sheet 2) a visual framework which helps children to identify functional relationships within a system. The children complete the graphic organiser, considering the four main parts: root, stem, leaf and flower. Children who know about additional parts such as petal, leaf and stalk can be given a second graphic organiser to complete. If children have not used a graphic organiser before, work with them to model completing the information for one part of the plant.

Ask children: *What is the function of this part of the plant? Does this help you to think about what would happen if it was missing?*

### REFLECT AND REVIEW:

Ask the children to look at each other's diagrams and graphic organisers.

Ask children: *What are the names of the four main parts of flowering plants? What do they do? What would happen if the part was missing? Can you explain why? What other things do you know about flowering plants?*

Show the children a large blank KWL (What we Know, Want to know and have Learned) grid. (You can use Resource sheet 2 as a template.) Tell them that you are going to use this display to find out what they already know about plants and what more they want to find out.

Show slide 1 of Slideshow 1ww again and ensure that all the children can identify the root, stem, leaf and plant on the different images and agree that this knowledge can be entered into the KWL grid **KNOW** section, e.g., I know which part is the stem.

Show slide 2 and talk about the images.

Ask children: *What more would you like to find out about flowering plants? In pairs, write questions you would like to ask on sticky notes or small index cards.* If children find this difficult, use the question prompts on slide 3 to support them. Encourage children to make their questions scientific, that is, questions that can be answered by scientific enquiry.

Ask children to share some of the questions and add them all to the KWL grid under Want to know.

During the module refer back to these questions, transferring them to the What we have learned category as they are answered. Encourage children to add to the list of questions and find answers to those which will not be investigated in class as homework.

### EVIDENCE OF LEARNING:

Look at the children's labelled diagram and graphic organisers. Listen to them carefully during the Reflect and review session.

Can they name the root, stem, leaf and flower and were they able to identify these parts on the living plant and the images of different plants? Can they label additional plant parts? Do they understand that a tree trunk is a stem?

Did they describe the function of the different parts of the plant? Do they refer to: the roots taking in water and nutrients and anchoring the plant; the stem transporting nutrients and water and supporting the plant; the leaves needing to be in the light and making food for the plant; the flower attracting/feeding insects and being needed for reproduction/making fruits and seeds?

Can they ask relevant questions using a range of question words such as what, why, how, when, and are they scientific (able to be answered factually through enquiry rather than being a matter of opinion)?