Science – Plants – Year 1 and Year 2

Year 1 NC - pupils should be taught to:	How we do this in Year 1	Year 1 Vocabulary	Year 2 NC - pupils should be taught to:	How we do this in Year 2	Year 2 Vocabulary
Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees <u>How working scientifically can be met</u> • gather and record data to help in answering questions	***See below for the first session, then start here*** Introduce the concept of wild plants. Discuss what makes plants 'wild'. Show the wild plants that the children will be searching for in the main activity. Discuss the shape, size and distinguishing features of these plants. Children consider ways that they could find out which plant is the most common. Wild Plant Hunt: Children hunt for wild plants in a suitable outside area, marking their frequency using a tally. Add up their tallies and collate the children's frequencies for each plant to find the most common plant.	Wild, weed, common, tally.	Observe and describe how seeds and bulbs grow into mature plants <u>How working scientifically can be met</u> • observe closely using simple equipment • recording observations	Show the children pictures of common wild and garden plants and trees. As a class, invite children to identify the plants. Parts of a Flowering Plant: allow children reassemble the picture of the plant and to label the parts. Parts of a Tree: Repeat the previous activity. In a suitable outdoor location, provide children with magnifying glasses and encourage them to closely study flowering plants and trees - drawing a labelled diagram of a plant and writing a description. Children discuss their observations with a partner.	Roots, stem, leaves, flower, trunk, branches, observation, diagram.
• identify and name	Talk about a range of common garden plants. Children draw their own gardens full of common garden plants, labelling	Garden, seeds, flower, plant, magnifying glass, roots, leaves, petals.	• observe and describe • set up a test and make a prediction • perform simple tests by setting up a comparative test	Recap previous experience in identifying some common garden, wild and edible plants. Introduce the children to the structure and function of seeds and bulbs. Explain that the children	Seed, bulb, germinate, embryo, stem, tunic, scales, bud, sprout, compare, comparative test.

	the plants they have used. In turns, small groups to examine the plants and flowers with magnifying glasses. Set prompt questions to encourage discussion: Can you see the petals/how many are there? Can you see the roots/what do you think they are for? Can you spot the leaves/what shape are they? etc			are going to plant one dwarf sunflower seed and one paperwhite narcissus bulb so they can compare how they grow. Record the children's initial ideas about what plants need to grow well. In pairs, encourage children to generate ideas about how they can find out if their suggestions are correct. Discuss these suggestions, in particular drawing out the idea that they could plant seeds and compare how they grow under different conditions. Planting: Explain that, in addition to the sunflower seeds and narcissus bulbs, the children are going to plant some seeds to grow under different conditions. Plant Growth Comparative Test: Explain the comparative test. In groups of about four, the children decide on appropriate locations and conditions for each plant. Plant Growth Predictions: Children discuss their predictions for the growth of each seed. Following from this, children use	
• look closely and observe • identify and classify	What do you think makes a tree an evergreen? Do you know what time of year deciduous trees start to lose their leaves? Describe the annual cycle of a deciduous tree. Tree Hunt: In pairs, children collect leaves from an outside area and identify them by matching them to the photos. Show the leaves with their corresponding trees, and discuss which leaf was the most common. Deciduous or Evergreen - using given descriptions, children sort the cards into groups based on the	Deciduous, evergreen.			

	characteristics of the leaves.			their predictions to decide on the appropriate conditions for their sunflower seeds and narcissus bulbs. Quiz children on which of the common foods are seeds and which are bulbs.	
			• observe and describe • use observations and ideas to suggest answers to questions	**Children will have planted a sunflower seed and a narcissus bulb in the previous session. Leave a few days/week before moving onto this session** Recap of the parts of flowering plants. Children measure the growth of their plants with a ruler, and record the height in cm. Discuss what should be recorded in the table if the plants have not yet sprouted. Introduce the idea that plants are alive. How can we tell that plants are living things? Encourage children to consider how we can tell that humans and other animals are living things, and to draw similarities.	Life cycle, life process, sprout, seedling.

				Life Processes: Watch the BBC learning clip to explore the life processes of plants. Explain the 7 life processes in simple terms. At each stage ask the children as a class to make comparisons with the life processes in humans and other animals. Life Cycles: Introduce the idea of life cycles and talk children through the life cycle of a bean plant. Sunflower Life Cycle: children to order the stages of a sunflower.	
Identify and describe the basic structure of a variety of common flowering plants, including trees <u>How working scientifically can be met</u> • say a question we could ask about plants • tell a way we could use our equipment to find out the answer	***FIRST SESSION*** Planting beans - introduce children to the equipment for experiment and generate ideas for using the equipment. Draw out the following questions for investigation: • What will happen if we don't put the bean in any soil? • What will happen if we don't give the bean any water? • What will happen if we leave the bean in the dark? Go through the instructions for planting a bean step by step. Children plant their own	Bean, plant, water, grow, soil, sunlight.	Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. <u>How working scientifically can be met</u> • use observations to explain • gather and record data • record the results of a comparative test	*Children will have set up the comparative test lesson 2. They will have planted seeds and bulbs in lesson 2 and measured their growth in lesson 3.* Remind children of the comparative test and the different conditions given to each of the plants. Children discuss their prediction for how each plant will have grown. Comparative Test Results: Seat children in their groups from lesson 2, with access to their four test seedlings. Children fill in a given results table,	Comparative test, compare, prediction, germinate, grow.

• identify and label • describe	beans, water them and place them in a sunny spot. Children write/draw an equipment list and write a set of instructions for planting a bean. *Over the next four weeks, find time to return to the bean plants weekly to measure their growth with a ruler and keep a 'bean plant diary'. The diaries will be completed in the final lesson of the unit.* *It is helpful if the children have experienced the parts of the plant in observing the growth of their bean plants (which were planted in lesson 1) over the course of the unit.* Remind children of their previous learning on wild plants, garden plants, trees and planting a bean. Children name the basic parts of a plant, and match the name of plant parts with a simple description of their functions. Making A Plant Picture: share the materials and generate ideas about how to use the materials to	Flower, petal, leaves, stem, roots, seeds, bulb.		writing a sentence to describe them and measuring them with a cm (or mm) ruler, before concluding what plants need to grow well. Conclusions: As a class, discuss the results and address any misconceptions. Give more information on the water and sunlight requirements of plants. Discuss the children's predictions and decide if the conditions that they chose for the sunflower seeds and narcissus bulbs were correct. Comparing Seeds and Bulbs: Children measure their sunflower and narcissus plants with a ruler and record the result that they began earlier in the unit. Children record the growth of their plants by drawing them, and writing descriptions. Cress! Explain that the children are going to compare the effect of different temperatures on the germination of cress. In pairs, children sow two trays of cress; one to	

	make a plant picture. Plant Pictures: Children make plant pictures and label with the parts of the plant with the labels provided.		• use observations and ideas to suggest answers to questions by using the results of tests	grow inside in a warm place, and one to grow outside where it is cool. Place the trays in suitable locations. **You will need to make sure that the cress seeds remain moist until the next lesson** *Children will have planted cress to grow in different temperatures in the previous session.* Comparing Seeds and Bulbs: Children measure their sunflower and narcissus plants with a ruler and record the result and record the growth of their plants by drawing them, and writing descriptions. Remind the children about the cress that was planted in the previous lesson, and ask children to reassemble into their pairs. Ask the children to predict which cress will have grown the best. Encourage the children to give reasons for their answers. Distribute both cress plants to each pair, and give the children time	

				to compare the two. Explain that plants grow best at a suitable temperature, but this temperature differs from plant to plant. Ask the children if they can remember the other two factors that they have learnt affect plant growth. Plants We Eat: Take suggestions of plants or parts of plants that we eat. Explain the main groups of edible plants, with examples, inviting children to name foods that they recognise, and familiar ways that they eat these foods. From Farm to Fork: Explain that most of the plants we eat are grown on farms, before they are sold to shops and ultimately bought and eaten by the consumer. Watch the video to explore some of the different strategies used by farmers to make sure their plant crops grow well. Children drawing some foods that could be grown on their farm and writing a sentence to explain	

				what their plant crops would need to grow well. Food Glorious Food: this is dependent on the cohort and allergy needs etc! Bring in a selection of food plants for the children to taste. Include food from different parts of plants. While tasting, see if children can identify the part of the plant that the food comes from, and discuss what kind of conditions the plant might need to grow.	
			• observe and describe • observe closely, using simple equipment • take measurements • record and compare results • create a bar chart to show results	*Children will have planted a seed and a bulb, and recorded their growth.* Sunflower and Paperwhite: Seat the children next to a talk partner at a table with access to each child's plants and a magnifying glass. Encourage the children to look closely at all parts of their plants and describe them to a partner in detail. Ask the children to compare their plants by thinking of a way that the plants are	Table, bar chart

				similar. Comparing Seeds and Bulbs: Children record the heights of their plants for the final time. Children compare by drawing their sunflower and narcissus plants and writing a similarity and a difference between the two. Bar Charts: Explain that the children are going to use the information they have collected in their tables to make bar charts to show the height of their plants week by week. Children use the information to create bar charts showing the growth of their plants over 4 weeks. Children complete one bar chart to show the growth of their sunflower and one to show the growth of their narcissus plant.	
<u>How working scientifically can be met</u> • observe closely, using simple equipment • measure using a ruler • use their observations and ideas to suggest answers to questions	*Children will have started the Bean Plant Diary in lesson 1. The Bean Plant Diary should have been filled in by each child with reference to their own bean plants once per week for the last four weeks.*	Bean, soil, water, sunny, grow, fruit.			

	As a class, children remember the steps they followed to plant their bean plants. Invite children to describe their bean plants and how they have grown. Record vocabulary to build up a word bank that can be referred. Children fill in their Bean Plant Diary for the final time, recording a picture of the bean by drawing or photographing, measuring the height of the plant with a ruler and writing a short description of the plant using words from the word bank. Children predict how the experimental beans have been growing. Reveal the experimental beans and discuss reasons why they have not grown like the individual beans the children have been looking after. Children state the things that plants need to grow and give reasons for their answers. Show the children different kinds of edible beans and discuss what kinds of beans the children are familiar with				

	eating. Optional (depending on cohort and allergies etc) - taste the different kinds of beans, comparing flavours and textures.				