

Year 2 NC - pupils should be taught to:	How we do this in Year 2	Year 2 Vocabulary	Year 3 NC - pupils should be taught to:	How we do this in Year 3	Year 3 Vocabulary
<p>Observe and describe how seeds and bulbs grow into mature plants</p>	<p>Show the children pictures of common wild and garden plants and trees. As a class, invite children to identify the plants.</p>	<p>Roots, stem, leaves, flower, trunk, branches, observation, diagram.</p>	<p>Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p>	<p>Show children a range of house plants. Ask children to discuss the different parts of the plants.</p>	<p>Roots, stem, trunk, leaves, flowers, anchor, nutrients, transport, seeds, carbon dioxide, sunlight, absorb.</p>
<p><u>How working scientifically can be met</u></p> <ul style="list-style-type: none"> <li>observe closely using simple equipment</li> <li>recording observations</li> </ul> <ul style="list-style-type: none"> <li>observe and describe</li> <li>set up a test and make a prediction</li> <li>perform simple tests by setting up a comparative test</li> </ul>	<p>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.</p> <p>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</p>	<p>Seed, bulb, germinate, embryo, stem, tunic, scales, bud, sprout, compare, comparative test.</p>	<p><u>How working scientifically can be met</u></p> <ul style="list-style-type: none"> <li>identify and name the different parts</li> <li>explain the functions that the different parts</li> </ul>	<p>Look at the pictures of the different parts of a plant and then discuss their functions.                      Can children clearly explain the function of the different parts of a plant?</p>	

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

<ul style="list-style-type: none"><li>• observe and describe</li><li>• use observations and ideas to suggest answers to questions</li></ul>	<p>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.</p> <p><i>*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*</i></p> <p>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.</p>	<p>Life cycle, life process, sprout, seedling.</p>			
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	<p>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.</p> <p>Life Cycles: Introduce the idea of life cycles and talk children through the life cycle of a bean plant.</p> <p>Sunflower Life Cycle: children to order the stages of a sunflower.</p>				
<p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p><i>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.</i></p>	<p>Comparative test, compare, prediction, germinate, grow.</p>	<p>Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant</p>	<p>Discuss the 7 life process with the children. Ask whether the children have looked after plants before. What did they need to provide to help them grow?</p>	<p>Air, light, water, nutrients, soil, investigate, explore, predict, observe.</p>
<p><u>How working scientifically can be met</u></p> <ul style="list-style-type: none"> <li>• use observations to explain</li> <li>• gather and record data</li> <li>• record the results of a comparative test</li> </ul>	<p>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,</p>		<p><u>How working scientifically can be met</u></p> <ul style="list-style-type: none"> <li>• pose a question to investigate</li> <li>• predict what will happen</li> <li>• plan how to set up my investigation</li> <li>• set up investigation</li> </ul>	<p>How Can We Find Out? Discuss different investigations. Children to choose a question as the focus for their investigation. Children to predict what they think will happen. Ask the children to record what they intend to do.</p> <p>Set It Up! Allow the children time to set up</p>	

	<p>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.</p> <p>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</p>		<p>carefully</p> <ul style="list-style-type: none"> <li>• describe observations</li> <li>• record observation</li> <li>• present findings</li> </ul>	<p>their investigation. They may need to put their plants in a dark cupboard or in a fridge. They should measure the height of their plant and record it on their                  Allow children time each day to record their observations ready for the next lesson.</p> <p>Recap and discuss the children’s observations. Explain how to sum up their observations.                  Conclusion: Remind children of what they were trying to find out by looking back at their initial questions. Give the children time to look back at their predictions. Children discuss whether their predictions were accurate or not. Introduce the idea of a ‘conclusion’ that summarises the answers to these questions.                  Share Your Findings: Look at the concept of reliability. Mix the groups of children up so that they are sitting with different children (ideally</p>	<p>Observation, prediction, conclusion.</p>
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<ul style="list-style-type: none"><li>use observations and ideas to suggest answers to questions by using the results of tests</li></ul>	<p>grow inside in a warm place, and one to grow outside where it is cool. Place the trays in suitable locations. <i>*You will need to make sure that the cress seeds remain moist until the next lesson*</i></p> <p><i>Children will have planted cress to grow in different temperatures in the previous session.</i></p> <p>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</p>		<p>the groups will have children investigating a range of questions). Ask the children to discuss what their findings show. Explain that a conclusion is an explanation of what you have found out - summarise the findings of the investigations.</p>	
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	<p>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.</p> <p><b>Plants We Eat:</b> 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.</p> <p><b>From Farm to Fork:</b> 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.</p> <p>Children drawing some foods that could be grown on their farm and writing a sentence to explain</p>				
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<ul style="list-style-type: none"> <li>• observe and describe</li> <li>• observe closely, using simple equipment</li> <li>• take measurements</li> <li>• record and compare results</li> <li>• create a bar chart to show results</li> </ul>	<p>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.</p> <p><i>Children will have planted a seed and a bulb, and recorded their growth.</i></p> <p>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</p>	<p>Table, bar chart</p>			
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	<p>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.</p> <p>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.</p>				
			<p>investigate the way in which water is transported within plants</p> <hr/> <p><u>How working scientifically can be met</u></p> <ul style="list-style-type: none"> <li>• explain the</li> </ul>	<p>Recap the function of the stem in lesson 1. Children work in groups to create a human model of the function of the stem. Remind children of the function of the stem and address any misconceptions.</p>	<p>Transport, stem, evaporate, compare, temperature, leaves, flower, observe, prediction, conclusion.</p>

			<p>function of the stem</p> <ul style="list-style-type: none"><li>• set up a comparative investigation</li><li>• suggest ways to find answers</li><li>• make a prediction</li><li>• make a conclusion</li></ul>	<p>Explain the process of water transportation.</p> <p>Transportation Investigation: Explain the investigation - the children will be carrying out a comparative investigation to find out whether temperature affects the speed that water is transported. Show the children the pre-dyed flower. Discuss how it was dyed. How does this show the process of water transportation?</p> <p>As a class, discuss how this idea could be used to investigate the rate of water transportation in different temperatures. Once they have had time to think about this, explain the method. Children work as a group to sort the predictions.</p> <p>Set It Up: Organise the children into groups to set up the investigation. Assign groups to the different places around school and provide them with their flowers, beakers of water, teaspoons and food colouring. Ensure that</p>	
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				<p>each group keeps variables other than temperature the same.                  Observing Changes:                  Explain that the children should check the flowers at regular intervals throughout the day (depending on the temperature, first results may be seen within 1 to 2 hours). Continue to observe the flowers throughout the day, recording their observations.                  Explain what a conclusion is. Children to write their own conclusion for the investigation - can they use your observations to come to a clear conclusion?</p>	
			<p>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</p> <hr/> <p><u>How working scientifically can be met</u></p> <ul style="list-style-type: none"> <li>• identify the different parts of a flower and</li> </ul>	<p>Children will have learnt about the structure of a plant and the function of the flower from lesson 1 - recap.                  Discuss the role of a flower and the fact that it is made up of different parts.                  Dissect a Flower: Give each pair of children a flower. Ask them to</p>	<p>Petals, sepal, stamen, anther, filament, stigma, style, ovary, ovule, pollen tube, pollen, pollination, fertilisation.</p>

			<p>explain functions</p> <ul style="list-style-type: none"> <li>• explain process and fertilisation</li> </ul> <ul style="list-style-type: none"> <li>• order the different stages of the life cycle of a flowering plant</li> </ul>	<p>dissect it carefully, separating it into the different parts. Organise the different pieces, placing them under the correct heading. Discuss the fact that each part of the flower has a job to do in order to make a seed. Play video and watch as each part of the flower is discussed. Children to match the parts of the plant with the explanations of their jobs. Explain the processes of pollination and fertilisation. Can children articulate their understanding of pollination and fertilization?</p> <p>Children tell their partner 3 things they already know about life cycles then share their ideas with the rest of the class. Briefly discuss the stages of the life cycle of a flowering plant. Look at the different methods of seed dispersal. Act it Out: The children should work in groups to</p>	<p>Dispersal, pollination, fertilisation, germination, life cycle, stages.</p>
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				<p>act out a method of dispersal. Once they have planned their short dramatisation, each group should present to the rest of the class. The children watching should try to guess which method is being demonstrated. Recap the stages of the life cycle. Children are to put the stages of the life cycle in order and describing them.</p>	
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