

Science

Year 3 - Summer 1 – Plants

National Curriculum / End Point Statement

Plants

- identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers
- 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
- investigate the way in which water is transported within plants
- explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal

Working Scientifically

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings

Step 1	Step 2	Step 3	Step 4 (TAPS)	Step 5	Step 6
Recap previous knowledge – Year 1 seasonal changes, year 1 and 2 plants and Living things& their habitats WALT identify and describe the functions of different parts of flowering plants	WALT explore the requirements of plants for life and growth and how they vary from plant to plant	WALT explore the part that flowers play in the life cycle of flowering plants	WALT investigate the way in which water is transported within plants	WALT explore the part that flowers play in the life cycle of flowering plants	WALT explore the requirements for life and growth and how they vary from plant to plant.
In Focus - https://explorify.wellcome.ac.uk/en/activities/zoom-in-zoom-out/spectacular-spheres	In Focus - https://explorify.wellcome.ac.uk/en/activities/zoom-in-zoom-out/brown-tubes	In Focus - https://explorify.wellcome.ac.uk/en/activities/whats-going-on/growing-seed	In Focus - https://explorify.wellcome.ac.uk/en/activities/whats-going-on/water-colours	In Focus - https://explorify.wellcome.ac.uk/en/activities/whats-going-on/bonkers-conkers	In Focus - https://explorify.wellcome.ac.uk/en/activities/odd-one-out/timewarp-plants

Success Criteria

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<p>I can name the four main parts of a flowering plant</p> <p>I can describe the function of a root/stem, trunk/petal/leaf is</p> <p>I can identify the stigma, style and ovary</p> <p>I can identify the anther and filament</p>	<p>I know why plants have leaves</p> <p>I know what the impact of extreme conditions can have on some plants</p>	<p>I know the parts of a plant</p> <p>I can explain the importance of bees</p> <p>I know which part of a plant makes the seeds</p> <p>I know how some plants produce fruit/veg</p>	<p>I can make observations</p> <p>I can give an explanation as to what may have happened</p> <p>I can offer suggestions as to what may happen</p> <p>I know how the nutrients get from the soil to the leaves</p>	<p>I can describe the process of pollination</p> <p>I know what fertilisation is</p> <p>I know some methods that plants use to spread their seeds</p>	<p>I know what a plant needs to grow healthy</p> <p>I can name the parts of a plant</p> <p>I know the methods used by plants to spread their seeds.</p>
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Suggested Outcome

<p>Set up observation over time – healthy plants with roots removed, healthy plant with leaves removed, healthy plant.</p> <p>Children should be able to define the function of a root, stem, leaf and petal.</p>	<p>Children decide how they are going to investigate the effect of no air, no water and no light on plants.</p> <p>Set up investigation.</p> <p>Children then research plants that can survive in extreme environments</p>	<p>Children can explain what happens when a plant creates seeds. Explore plants that flower and produce fruit and veg through life cycles.</p>	<p>Children record their observations and make predictions for further investigations.</p>	<p>Children learn about the processes of pollination and fertilisation. They also look at seed dispersal.</p>	<p>Children recap the investigations and consolidate their understanding of the processes involved in pollination, fertilisation and seed dispersal.</p>
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Vocabulary	NC links
air, nutrients, soil, transported, life cycle, pollination, seed formation, seed dispersal, fertiliser/food, structure	Geography

Key Learning	
<p>Many plants, but not all, have roots, stems/trunks, leaves and flowers/blossom. The roots absorb water and nutrients from the soil and anchor the plant in place. The stem transports water and nutrients/minerals around the plant and holds the leaves and flowers up in the air to enhance photosynthesis, pollination and seed dispersal. The leaves use sunlight and water to produce the plant's food. Some plants produce flowers which enable the plant to reproduce. Pollen, which is produced by the male part of the flower, is transferred to the female part of other flowers (pollination). This forms seeds, sometimes contained in berries or fruits which are then dispersed in different ways. Different plants require different conditions for germination and growth.</p>	
Possible Evidence	Common Misconceptions
<ul style="list-style-type: none"> • Can explain the function of the parts of a flowering plant • Can describe the life cycle of flowering plants, including pollination, seed formation, seed dispersal, and germination • Can give different methods of pollination and seed dispersal, including examples • Can explain observations made during investigations • Can look at the features of seeds to decide on their method of dispersal • Can draw and label a diagram of their created flowering plant to show its parts, their role and the method of pollination and seed dispersal 	<p>Some children may think:</p> <ul style="list-style-type: none"> • plants eat food • food comes from the soil via the roots • flowers are merely decorative rather than a vital part of the life cycle in reproduction • plants only need sunlight to keep them warm • roots suck in water which is then sucked up the stem.

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Notable Scientists
Joseph Banks (botanist) Ahmed Mumin Warfa (botanist)
CPD opportunity
https://www.reachoutcpd.com/courses/lower-primary/plants/
Useful Links
<ul style="list-style-type: none"> • https://central.espresso.co.uk/espresso/modules/curriculum_browse/index.html?subject=nc2014:classification:862675&grade=y3 • https://www.bbc.co.uk/bitesize/topics/zy66fg8 • https://www.bbc.co.uk/teach/class-clips-video/science-ks1-ks2-ivys-plant-shop/zh2hkmn • http://www.saps.org.uk/

Plants

Early learning goal	<ul style="list-style-type: none"> • Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes.
Year 1	<ul style="list-style-type: none"> • Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. • Identify and describe the basic structure of a variety of common flowering plants, including trees.
Year 2	<ul style="list-style-type: none"> • Observe and describe how seeds and bulbs grow into mature plants. • Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. • Identify and name a variety of plants and animals in their habitats, including microhabitats. (Y2 - Living things and their habitats)