

| Subject: Science  | . 0/4  |   | Area of learning: Plants (Year A)   |
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| rear Group: Year 3/4  |  |   |   |
| Links to<br>previous<br>work/Remember<br>when   | <ul> <li>In Year 2 children spent time observing and describing seeds and bulbs and how they grow into mature plants.</li> <li>In Year 2 children investigated how plants need water, light and a suitable food source.</li> </ul> |   |   |
|   | Working Scie<br>asking sin<br>answered<br>observing<br>performin<br>identifying<br>using their<br>questions<br>gathering   | entifically<br>nple questio<br>I in different<br>g closely, usi<br>g simple tes<br>g and classif<br>ir observatio<br>and recordi  | ns and recognising that they can be<br>ways<br>ng simple equipment<br>ts<br>ying<br>ns and ideas to suggest answers to<br>ng data to help in answering questions.   |
| Term  | Year Key<br>3/4  | / Skills to b   | e taught  |
| Spring 2023<br>What the<br>children should<br>know at the end<br>of this series of<br>lessons |  | Identify and<br>of flowering<br>flowers.<br>explore the r<br>growth (air, l<br>room to grow<br>plant<br>investigate t<br>within plants<br><u>Working Scie</u><br>Asking relev<br>of scientific e<br>Setting up si<br>and fair tests<br>Making syste<br>where appro-<br>using standa<br>including the<br>Gathering, re<br>data in a var<br>questions.<br>Recording fi<br>language, du<br>charts, and t<br>Reporting or<br>and written e<br>of results an | describe the functions of different parts<br>plants: roots, stem/trunk, leaves and<br>requirements of plants for life and<br>ight, water, nutrients from soil, and<br>v) and how they vary from plant to<br>he way in which water is transported<br><u>entifically</u><br>ant questions and using different types<br>enquiries to answer them.<br>mple practical enquiries, comparative<br>s.<br>ematic and careful observations and,<br>priate, taking accurate measurements<br>ard units, using a range of equipment,<br>ermometers and data loggers.<br>ecording, classifying and presenting<br>iety of ways to help in answering<br>ndings using simple scientific<br>rawings, labelled diagrams, keys, bar<br>ables.<br>n findings from enquiries, including oral<br>explanations, displays or presentations<br>d conclusions. |



| <ul> <li>Using results to draw simple conclusions, make<br/>predictions for new values, suggest improvements</li> </ul> |
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| 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.   |

#### Vocabulary

Plants, growth, light, warmth, air, soil, water, investigate, seedlings, research, height, root, stem, leaves, flowers, petals, shoots, leaves, buds, fruits, seeds, classify,

| Sequence<br>of<br>learning | Objectives and suggested details provided by subject leader.   |
|----------------------------|--|
| 1                          | i). 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.   |
|                            | <ul> <li>Working Scientifically</li> <li>1. Ask relevant questions and use different types of scientific enquiries to answer them.</li> <li>2. Set up simple practical enquiries and comparative and fair tests.</li> </ul>  |
|                            | <ul> <li>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.</li> <li>Working Scientifically</li> <li>Ask relevant questions and use different types of scientific enquiries to answer them.</li> </ul> |
|                            | • Set up simple practical enquiries and comparative and fair tests.  |
|                            | Investigation - exploring over time/fair testing/analysing secondary sources   |
|                            | In groups, set up an investigation to test the importance of each<br>requirement – light, water, space, soil/ nutrients, air.<br>Year 3 - Research 2 plant facts.<br>Year 4 - Research 4 plant facts.  |
| 2                          | i) Identify and describe the functions of different parts of flowering   |
|                            | ii) Explore the requirements of plants for life and growth (air, light,<br>water, nutrients from soil, and room to grow) and how they vary from<br>plant to plant.   |

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|   | <ul> <li>Working Scientifically <ol> <li>Make systematic and careful observations and, where appropriate, take accurate measurements using standard units.</li> <li>Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.</li> </ol> </li> <li>Play a game to recap on plant knowledge and teach some new concepts (Yrs 3&amp;4).</li> <li>Continue with ongoing investigation of plant needs for growth and health, making comparisons and taking measurements of height (Yrs 3&amp;4).</li> <li>Closely observe whole specimen plants and make detailed, labelled and annotated drawings (Yr3 - 3 annotations, Yr4 - 5 annotations).</li> <li>Play a game to reinforce the various parts of a plant and their functions (Yrs 3&amp;4).</li> </ul> |
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| 3 | <ul> <li>i) Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</li> <li>ii) 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.</li> </ul>   |
|   | <ul> <li>Working Scientifically</li> <li>1. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units.</li> <li>2. Gather, record, classify and present data in a variety of ways to help answer questions.</li> </ul>   |
|   | <ol> <li>Continue with the ongoing investigation of plant needs, making estimates and comparisons and taking measurements (Yrs 3&amp;4).</li> <li>Classify different foods as either root, stem/shoot, leaf, flower, fruit or seed (Yr3 - 2 foods per category, Yr4 – classify all foods).</li> <li>Create detailed models or pastel drawings of sections through fruits showing flesh, skin, seeds etc. (Yrs 3&amp;4).</li> </ol>  |
| 4 | NATIONAL SCIENCE WEEK – Two afternoons of science<br>https://www.britishscienceweek.org/app/uploads/2023/01/Primary-  |
|   | Activity-Pack-2023-Britisn-Science-Week.pdf   |
| 5 | <ul> <li>i) Identify and describe the functions of different parts of flowering<br/>plants: roots, stem/trunk, leaves and flowers.</li> </ul>   |



|   | ii) 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.   |
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|   | Working Scientifically<br>Make systematic and careful observations and, where appropriate,<br>take accurate measurements using standard units, using a range of<br>equipment, including thermometers and data loggers.<br>Identify differences, similarities or changes related to simple scientific<br>ideas and processes.   |
|   | <ul> <li>Continue to take notes and measurements on the bean seedlings investigation and report to the class on how their requirement seems to be affecting health and growth (Yrs 3&amp;4).</li> <li>Set up an experiment to investigate the way in which water is transported within plants (Yrs 3&amp;4).</li> <li>Use data loggers to compare light (and temperature) levels inside and outside (Yrs 3&amp;4).</li> <li>Make a summary of class findings from the seedling investigation</li> </ul>  |
|   | with notes and drawings of results (Yr3 - brief notes and a drawing, Y4 - more detailed notes including measurements and a drawing).   |
|   | <ul> <li>Investigation - fair testing/problem solving/exploring over time</li> <li>It's time to compare the seedlings and think about our findings<br/>and what they mean. Take more measurements/ notes and report<br/>to the class. Set up further investigations with data loggers (light<br/>and temp) and food dye (water transport).</li> </ul>  |
|   | <ul> <li>Compare the health of seedlings with none of each requirement to<br/>a healthy control plant. Draw each and make notes (both).</li> <li>Year 3 - Prompt with key words e.g. leggy, yellowed, wilting</li> <li>Year 4 - Encourage more independence</li> </ul>   |
| 6 | Assessment Week  |
|   | <ol> <li>Recap on all their knowledge and understanding of plants and<br/>what they need to grow.</li> <li>Use notes and data from investigations to draw conclusions<br/>and present findings.</li> <li>Review their knowledge and understanding of plants by taking<br/>part in a quiz/ assessment task (Yrs 3&amp;4).</li> <li>Recap on all the requirements of plants for health and growth<br/>by either: drawing graphs of the results of the seedling<br/>investigation (Yr3) or using the findings to give detailed advice<br/>on growing strong, healthy plants (Yr4).</li> </ol> |



#### Learning Outcome/product

A thorough understanding of the functions of the different parts of flowering plants and the requirements plants have for life and growth.

| Assessment records | List only those children who have not achieved the expected outcomes. |
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| Assessment records | List only those children who have exceeded the expected outcomes. |
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| End of unit assessment task  |
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| Participation in the end of unit quiz, demonstrating an understanding of the key |
| objectives covered.  |