**Year 2 Science Curriculum – Spring 1**

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| **Theme: Growing Seeds and bulbs** | | | | | | | | | |
| **Curriculum objectives** | | | **Vocabulary** | | | | | | **Links across the curriculum** |
| To observe and describe how seeds and bulbs grow into mature plants. | | | Compare | To notice how things are the same or different. | Accurate | An adjective used to describe a measurement or observation that is exact | | | Food Technology:  **Peas Please!** Fiona Macdonald - Photographic journey of a pea from field to plate.  English:  **Mick Digs** Caroline Green, Lucy Barnard - Instructions for how to plant seeds | |
| Describe | To use words to tell someone what something is like. | Comparative test | A science enquiry to compare two materials or events | | |
| Enquiry | A method scientists use to collect evidence to answer questions | Conditions | Factors that affect a living thing | | |
| Observing over time | A science enquiry where observations are made over a fixed period of time | Germinate/ germination | When a seed starts to grow | | |
| Stem | The part of a plant which grows above the ground, and which holds the leaves and flowers | Pattern | Something that happens or appears in a regular and repeated way | | |
| Flower | the part of a plant which is often coloured other than green and grows above the ground | Roots | The part of a plant which grows under the ground | | |
| Record | To draw or write what you observed or measured. | Effect | A change which is the result of something | | |
| **Prior knowledge:** *What specifically have pupils learned that is relevant to this unit that they are building upon?* | | | | | | | **Future knowledge:** *What specifically will pupils learn in the future that is relevant to this unit?* | | |
| Growing seeds and bulbs is a Biology topic building on children’s learning and experiences in the Early Years Foundation Stage and Year 1.  Children have previously learnt:   * To name and identify a variety of common plants, and to describe a plant’s structure using the terms ‘roots’, ‘stems’/‘trunks’, ‘leaves’ and ‘flowers’ (Year 1 Biology – Plants). | | | | | | | This prepares children for later learning:   * About the conditions that mature plants require for healthy growth (Year 2 Biology – Plants) * About the functions of different parts of flowering plants, the requirements of plants for life and growth, and the way in which water is transported within plants (Year 3 Biology – Plants). | | |
| **Lesson Sequence** | | **Key Knowledge** | | | | | **Key Skills** | | |
| ***How do plants grow and change over time?*** | | When a seed starts to sprout and grow, this is called germination. Many plants grow from seeds into mature plants. | | | | | **Working scientifically**  **Skills children will learn, use, and develop**   * Observing closely, using simple equipment. * Performing simple tests. * Identifying and classifying. * Gathering and recording data to help in answering questions.   **Knowledge about science children will learn**  Children will learn about the methods scientists use to build scientific knowledge about the natural world.  They will learn that scientists learn about plants by making careful observations and measurements, recording changes over time, and carrying out enquiries to compare the effect of changing conditions.  They will develop an understanding of the following types of enquiry: observing over time, pattern seeking, identifying, and classifying, comparative testing. | | |
| ***How are seeds and bulbs different?*** | | Mature plants can grow from either seeds or bulbs. There are differences between seeds and bulbs. | | | | |
| ***What do seeds need to germinate?*** | | Seeds need certain conditions to germinate. Tests can be set up to determine whether seeds require water and light. | | | | |
| ***How tall will they grow?*** | | Seeds come in a variety of sizes. The size of the seed does not determine the height of the mature plant that grows from it. | | | | |
| ***What have we learnt about how a seed germinates?*** | | When a seed germinates, its seed coat splits and the roots, stems and leaves grow from it. Seeds need certain conditions to germinate. All seeds require water, and most do not need light. | | | | |
| ***Assessment*** | | Snapshot 1: Growing plants  Curriculum statement is achieved if the child: Can distinguish bulbs from seeds and explain that both grow into plants over time. Can describe how plants that they have grown themselves have changed over time, naming parts of each plant, as appropriate. Can state that seeds and bulbs need water to start them growing (but don’t need light) and that plants continue to need water as they grow to maturity. Can describe the growth of a seed or bulb, starting with a root emerging from a seed or a shoot and roots growing from a bulb. Can describe the gradual growth of the plant over time, and the changes that take place with the development and growth of leaves, flowers and seeds. | | | | |
| **Themes and links** | | | | | | | | | |
| **Themes (types of enquiry)** | **Where these are covered:** | | | | | | | **Links across the science curriculum** | |
| **Observe and describe** | Lessons 1, 2, 3, 4 and 5  Can describe how a seed germinates and grows into a mature plant.  Can describe how a bulb sprouts and grows into a mature plant.  Can describe the conditions required for seed germination, noting that all seeds need water, but most do not need light. | | | | | | | |  |  | | --- | --- | | **EYFS** | To explore the natural world around them, making observations and drawing pictures of plants (EYFS framework; ELG The Natural World). | | **1** | About seasonal changes and plants’ names in their locality.  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. | | **2** |  | | **3** | Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.  That plants need air, light, water, nutrients, and room to grow.  To identify and describe the functions of some parts of a flowering plant: roots, stem/trunk, and leaves. | | **4** | Recognise that living things can be grouped in a variety of ways.  Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. | | **5** | Describe the life process of reproduction in some plants. | | **6** | Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, and plants.  Give reasons for classifying plants based on specific characteristics. | | |
| **Gathering and Recording data** | Lessons 4 and 5  Can use the data provided for them about seed size and height of the mature plant to create a bar chart, then use their bar chart to answer the question, ‘Will the biggest seeds grow into the tallest plants?’  Can gather data from the simple comparative test they set up in Lesson 3 to answer the question ‘What do seeds need to germinate?’ | | | | | | |
| **Comparative and fair testing** | Lesson 3  Can set up a simple comparative test to determine the effect of water and light on seed germination. | | | | | | |
| **Identifying and classifying** | Lesson 2  Can make careful observations to compare seeds and bulbs and classify them accordingly. | | | | | | |