




















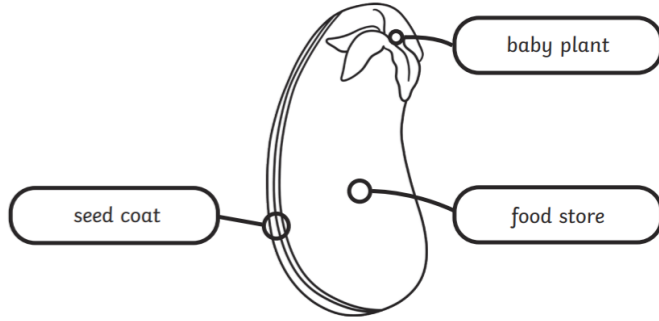





Science – Plants

Term 5	Learning Question & NC Link	Substantive Knowledge To know that...	Disciplinary Knowledge I can...	Vocabulary	Assessment opportunity	Equipment & resources	Lesson ideas
Session 1 Asking simple questions and recognising they can be answered in different ways	What are the names of common trees? What trees grow in the school grounds or local area?	To know some plants that grow from a bulb. To know some plants that grow from a seed. To know how seeds and bulbs grow into mature plants. To know the names of common plants in the school grounds. To know the names of common trees. (Link to trees in the local area or school grounds)	To be able to observe and describe how seeds grow into mature plants. To use their observations and ideas to suggest answers to questions.	Seed - The part of a flowering plant that can grow into a new plant. Bulb - Bulbs are underground masses of food storage from which plants grow. Trees - deciduous, evergreen, ash, birch, beech, rowan, common lime, oak, sweet chestnut, horse chestnut, apple, willow, sycamore, fir, pine, holly, etc Wild flowering plants - cleavers, coltsfoot, daisy, dandelion, garlic mustard, mallow, mugwort, plantain, red clover, self heal, shepherd's purse, sorrel, spear thistle, white campion, white deadnettle and yarrow. Garden plants – crocus, daffodil, bluebells, etc	Questions throughout the lesson. Record as pupil voice in science books. On post-its or in inverted commas.	Ipad/camera Science books Lab coat Science sign Science bag (Place a piece of science equipment in each week or something relevant to the lesson)	Encourage children to identify questions about what they want to find out in the garden i.e. What plants grow there? Do bulbs grow in our school grounds? What type of trees grow in the garden? Record these on the board. Go into the garden and identify what grows in the school grounds. Identify bulbs and plants as well as tress and wild flowers. Take photos to identify back in the classroom. Useful Resources: The identification charts from Gatekeeper, the identikit from the Great Plant Hunt website (free) and the identification charts from OPAL (free) are useful for you and the children. In the school library – Research to find out the names of some of the plants growing around our school. This should include any tress, wild flowers and garden plants. Draw detailed pictures of plants found in the school garden from the photos and if possible bring some plants/flowers in to draw, identify and label.
Session 2 Observing	What is a seed like? How can you describe a seed?	To know that there are different types of seeds. To know that seed growth takes place over time. To know how seeds grow/spread/disperse.	To be able to observe closely using simple equipment. To be able to sort objects using observable features.	Seed dispersal – Seed dispersal is when the seeds move away from the plant. They can be moved by the wind or animals. Seed - The part of a flowering plant that can grow into a new plant.	Questions throughout the lesson. Record as pupil voice in science books. On post-its or in inverted commas.	Science books Lab coat Science sign Science bag Science books Lab coat Science sign Science bag	What are different seeds like? Encourage the use of a hand lens/magnifying glass to look at different seeds. Use sight and touch to explore the seeds. Describe the seeds to a partner – how do they look? Feel? Discuss texture, shape, size, colour.  Show images i.e. What are they? Can the children identify? Establish that they are seeds and name them. Discuss seed dispersal and complete something similar to the example below for books.

						<p>A plant produces many seeds. If all the seeds fell to the ground not many would germinate. The area would become over crowded and there would not be enough water or minerals for all the seeds. Plants have developed so that seeds can be transported in a number of different ways: by the wind, by animals eating them, by water or by sticking to animals.</p> <p>Write how each seed is dispersed.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  sycamore </div> <div style="text-align: center;">  poppy </div> <div style="text-align: center;">  burdock </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-start; margin-top: 10px;"> <div style="text-align: center;">  berries </div> <div style="text-align: center;">  coconut </div> <div style="text-align: center;">  acorn </div> </div> <p>Describe how an apple seed could be dispersed by water.</p> <hr/> <p>You could experiment planting different seeds i.e. a tomato seeds, apple or orange pip. Take children's suggestions and have as an experiment over time.</p>
<p>Session 3</p> <p>Identify and classify</p>	<p>How can seeds be different?</p> <p>How is a seed different to a bulb?</p>	<p>To know how seeds can be sorted.</p> <p>To know when bulbs should be planted. (Autumn Oct-Dec and before first frost)</p> <p>To know how bulbs should be planted.</p> <p>To know how seeds and bulbs grow into mature plants.</p>	<p>To know what a bulb is and how it is different to a seed.</p> <p>To know some plants that grow from a bulb.</p> <p>To know some plants that grow from a seed.</p> <p>To know how seeds and bulbs grow into mature plants.</p>	<p>Seed - The part of a flowering plant that can grow into a new plant.</p> <p>Bulb - Bulbs are underground masses of food storage from which plants grow.</p> <p>Seed dispersal – Seed dispersal is when the seeds move away from the plant. They can be moved by the wind or animals.</p>	<p>Questions throughout the lesson. Record as pupil voice in science books. On post-its or in inverted commas.</p>	<p>Science books</p> <p>Lab coat</p> <p>Science sign</p> <p>Science bag</p> <p>Warm up - Use the Twinkl seed dispersal sorting activity. Sort the pictures into wind, water, eaten by animal, exploding, catching a lift. Discuss as you complete the activity. (Recap/check learning from last week)</p> <div style="display: grid; grid-template-columns: repeat(3, 1fr); gap: 5px;">             </div> <p>Look at a bulb and discuss how it is different to a seed. (You could dig up a daffodil bulb from the garden for this).</p> <p style="text-align: center;">Comparing Seeds and Bulbs</p> <div style="display: flex; justify-content: center; gap: 20px;">   </div> <p>How is a seed different to a bulb?</p> <hr/> <hr/> <p>How is a seed the same as a bulb?</p> <hr/> <hr/>

<p>Session 4</p> <p>Using their observations and ideas to suggest answers to questions.</p> <p>Gather and record data to help in answering questions</p>	<p>How do seeds germinate?</p> <p>What is the function of each part of the plant/seed?</p>	<p>To know the different parts of a seed.</p>	<p>To be able to recognise that questions can be answered in a range of ways.</p> <p>To know the basic function of what each part does e.g. the roots anchor the plant to whatever it is growing on. (Build upon this from year 1 – further embedding this knowledge)</p>	<p>Sunlight - Light from the sun is a form of energy which helps plants to grow. Germination - The stage of plant growth where the seeds begins to sprout.</p> <p>Sprout - When a plant sprouts, it grows new shoots.</p> <p>Trees - deciduous, evergreen, ash, birch, beech, rowan, common lime, oak, sweet chestnut, horse chestnut, apple, willow, sycamore, fir, pine , holly, etc</p> <p>Wild flowering plants - cleavers, coltsfoot, daisy, dandelion, garlic mustard, mallow, mugwort, plantain, red clover, self heal, shepherd's purse, sorrel, spear thistle, white campion, white deadnettle and yarrow.</p> <p>Garden plants – crocus, daffodil, bluebells, etc</p> <p>Parts of plants – roots, branch, trunk, stalk, leaf, flower, petal, seeds, bulbs and twigs</p> <p>Need of plants – water, light, heat, temperature.</p> <p>Flower - Part of a plant that attracts insects and birds.</p> <p>Petal - Petals are part of a flowering plant which attract insects such as bees.</p> <p>Leaf - Part of a plant which absorbs sunlight which is used by the plant to make food.</p> <p>Root - Part of a plant which takes in water and nutrients from the soil.</p> <p>Stem - Part of a plant which helps support it and keep it upright.</p> <p>Absorb - To take in or swallow up.</p>	<p>Questions throughout the lesson. Record as pupil voice in science books. On post-its or in inverted commas.</p>		 <p>Can you explain what each part of the seed does?</p> <p>The seed coat protects the seed from getting damaged.</p> <p>The food store feeds the baby plant until it can make its own food.</p> <p>The baby plant will grow into the roots and stem of the new plant.</p> <p>Draw and label a seed/bean. Describe what each part does i.e. the function of that part.</p> <p>Watch a time lapse video of a bean growing and reinforce the parts i.e. roots, shoot, leaf, stem. https://www.youtube.com/watch?v=w7zzPAatVTuI</p> <p>Discuss germination - Germination is the phase of plant growth when the seed begins to sprout. Seeds have a seed coat, a protective layer on the outside. Inside the seed there is a cotyledon that protects and provides food for the baby plant, and the embryo, the baby plant inside the seed that has roots, a stem, and leaves.</p>
<p>Session 5</p> <p>Performing simple tests</p>	<p>What do seeds and bulbs grow into?</p> <p>Where can plants grow?</p> <p>What do plants need to grow healthily?</p>	<p>To know what seeds and bulbs need to grow healthily.</p> <p>To know that seeds/bulbs can grow in different things i.e. water (hydroponically), soil, cotton wool, stones, etc.</p>	<p>What are the basic parts of the plant?</p> <p>To know the basic structure of plants (see vocab for parts to teach) and that part of the plant is above the ground and part below the ground.</p> <p>To perform a simple test.</p>	<p>Germination - The stage of plant growth where the seeds begins to sprout.</p> <p>Sprout - When a plant sprouts, it grows new shoots.</p> <p>Trees - deciduous, evergreen, ash, birch, beech, rowan, common lime, oak, sweet chestnut, horse chestnut, apple, willow, sycamore, fir, pine , holly, etc</p> <p>Wild flowering plants - cleavers, coltsfoot, daisy, dandelion, garlic mustard, mallow, mugwort, plantain, red clover, self heal, shepherd's purse, sorrel, spear thistle, white campion, white deadnettle and yarrow.</p> <p>Garden plants – crocus, daffodil, bluebells, etc</p> <p>Parts of plants – roots, branch, trunk, stalk, leaf, flower, petal, seeds, bulbs and twigs</p> <p>Need of plants – water, light, heat, temperature.</p> <p>Flower - Part of a plant that attracts insects and birds.</p> <p>Petal - Petals are part of a flowering plant which attract insects such as bees.</p> <p>Leaf - Part of a plant which absorbs sunlight which is used by the plant to make food.</p> <p>Root - Part of a plant which takes in water and nutrients from the soil.</p> <p>Stem - Part of a plant which helps support it and keep it upright.</p> <p>Absorb - To take in or swallow up.</p>	<p>Questions throughout the lesson. Record as pupil voice in science books. On post-its or in inverted commas.</p> <p>Check children's learning against key assessment questions for this term.</p>	<p>Science books</p> <p>Lab coat</p> <p>Science sign</p> <p>Science bag</p>	<p>Observe the beans and discuss what the bean/seed needs to grow healthily?</p> <p>Carry out the bean in the bag experiment.</p>  <p>Place in the window and observe and discuss changes over time. You could record as bean diary.</p> <p>As the bean starts to grow recap the names of the parts.</p>
<p>Notes</p>							

Sandwich Infant School