Brough Primary School – Curriculum Intention Plan 2024 - 2025

<table>
<tr><td colspan="2">Subject: Science
Year Group: Year 3/4</td><td>Area of learning: Plants (Year A)</td></tr>
<tr><td>Links to previous work/Remember when</td><td colspan="2">Children would have previously learnt about plants in their Y1 and Y2 Plants units. They should be able to identify and describe a number of common plants and their basic structure. They should also be familiar with how seeds grow. into plants and what plants need to be healthy.

<u>Working Scientifically</u>
• asking simple questions and recognising that they can be answered in different ways.
• observing closely, using simple equipment.
• performing simple tests.
• identifying and classifying.
• using their observations and ideas to suggest answers to questions.
• gathering and recording data to help in answering questions.</td></tr>
<tr><td>Term</td><td>Year 3/4</td><td>Key Skills to be taught</td></tr>
<tr><td>Spring 2 2025

What the children should know at the end of this series of lessons</td><td></td><td>• 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.
•
<u>Working Scientifically</u>
• 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.</td></tr>
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		• 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.

Vocabulary
Plants, growth, light, temperature, air, soil, water, investigate, seedlings, research, height, root, stem, stamen, anther, filament, sepal, stigma, style, ovary, pistil, leaves, flowers, petals, shoots, leaves, buds, fruits, seeds, classify, fertilisation, nutrients, pollination, pollinator, seed, seed dispersal.

Sequence of learning	**Learning objectives/outcomes**	**Suggested lesson outline**
1	**Learning Objective:** To describe and explain how seeds disperse and then germinate. **Key knowledge:** Seeds come in all shapes and sizes. The shape and size of the seed is usually linked to how the seed is dispersed. For example, a sycamore seed has a seed at one end and a wing like growth which allows the seed to 'helicopter' to the ground. Seeds can be dispersed by wind, water and animals. In the right conditions a seed will germinate once it has hit the ground. The right conditions depend on the plant. **Working scientifically** 1. Ask relevant questions and use different types of scientific enquiries to answer them. 2. Set up simple practical enquiries and comparative and fair tests.	**Recap –** What can you remember about the parts of a flowering plant from your last work on plants? (leaf, fruit, stem, roots, flower) Can you remember what plants need to survive? (water, temperature, light) **Seed dispersal and germination** Seeds are dispersed in a number of ways. The type of dispersal a seed uses dictates the shape and size of the seed. Once a seed had been dispersed it will lie dormant until the right conditions for germination arrive. Typically, this can be the spring, in this biome, but in others it can be triggered by other events. *Children cut out and reassemble the seed pictures they are given, based on the method of seed dispersal they think the use. Children will set up a science investigation to answer the question, 'How does the amount of light affect the growth of different seeds? Then, at the*

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	w/c 03–3-25 ongoing for 6 weeks- results table to update weekly.	*beginning of each science lesson, children will*
2	**Learning Objective:** To describe the roots and stem(s) of plants and explain their functions, including water transportation. **Key knowledge:** Plants need roots to grow healthily. They provide anchorage and support, enable them to take in water, nutrients and air. Many plants store food and water in their roots. E.g. a carrot. Most plants have a stem. It supports the plant and keeps it straight, holds its leaves and flowers and transports water and nutrients to different parts of the plant. **Working scientifically** 1. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units. 2. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.	**Recap –** Last lesson we mentioned seven conditions seeds and plants need to grow. How many can you remember? **Tracking our plant growth** How have the seeds progressed since last lesson? Let's update our plant tracker. **Water Transportation** Today we will be observing water transportation in plants. Water will travel to many parts of a plant including the flower. *Children carry out a simple investigation using a flower and food colouring. Children make notes about what they thought would happen and what they observed.*
3	**Learning Objective:** To identify the parts of a leaf and explain the primary functions of leaves. **Key knowledge:** Leaves are incredibly important to plants. Leaf parts are apex, midrib, vein and stalk. Leaves absorb energy from the sun and use it to produce their own food. Some plants even turn their leaves towards the sun. Evergreen trees keep their leaves all year round. Deciduous	**Recap –** Can you remember the functions of a plant's roots and describe them? **Tracking our plant growth** How have the seeds progressed since last lesson? Let's update our plant tracker. **The importance of Leaves** Plant leaves come in many different shapes and sizes. The leaves are used by the plant to absorb sunlight through a process called photosynthesis.

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	trees lose their leaves for part of the year. They slow or stop their growth to save energy when this happens. Leaves come in all shapes and sizes. **Working scientifically** 1. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units. 2. Gather, record, classify and present data in a variety of ways to help answer questions.	This sunlight is used to make food for the plant, without which it would be unable to survive or grow. *Children cut out and match the leaves they are given to the tree they think it comes from. Nearer to easter, we will return to this lesson and have a walk around outside looking at the leaves that are growing on the trees.* *Nature Walk* *Children complete the nature walk records, stating the colour, size and number of leaves, before adding a pencil sketch observational drawing.*
4	**Learning Objective:** To explain the function of flowers and identify their parts. **Key knowledge:** Many plants blossom and bloom in the spring or summer. They produce a bud which will grow and become a flower. Some flowers then develop fruit. A flower has many different parts. (Sepal, Petal, Pistil, Stigma, Style, Ovary, Stamen, Anther, Filament. **Working scientifically** 1. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. 2. Identify differences, similarities or changes related to simple scientific ideas and processes.	**Recap –** A quick quiz containing some true or false statements about leaves. **Tracking our plant growth** How have the seeds progressed since last lesson? Let's update our plant tracker. **Parts of a Flower** A flower has many different parts. (Sepal, Petal, Pistil, Stigma, Style, Ovary, Stamen, Anther, Filament. *Children dissect a flower, sticking the various parts of the flower onto their dissection mat and labelling the parts of the flower on a given diagram.*

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5	**Learning Objective:** To explore the requirements of plants for life and growth (air, light, water, nutrients from soil, room to grow) and how they vary from plant to plant. **Key knowledge:** Seed creation begins with pollen. Pollination occurs when pollen is transferred from the anther to the stigma. Pollen moves down through the flowers style, pollen then reaches the ovary where it combines with an ovule to make a seed. **Working scientifically** 1. Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.	**Recap –** Can you remember the parts of a flower? What can you remember about their functions? **Tracking our plant growth** How have the seeds progressed since last lesson? Let's update our plant tracker. **Describing pollination and fertilisation** Starting with the attraction that plants offer to pollinators, look at the process of pollination and how the pollen gets from the anther to the ovary. *Children are given an activity sheet to cut out and then stick back together in the correct order for the pollination process. Some tasks require just cutting and sticking, some require key words and phrases to be added.*
6	**Learning Objective:** To describe the life cycle of a flowering plant. **Key knowledge:** The life cycle of a plant is germination, growth, flowering, pollination and fertilisation, seed dispersal. **Working scientifically** 1. Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. 2. Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. **3.** Using results to draw simple conclusions, make predictions for new values, suggest	**Recap –** How much can you remember about how plants are pollinated? **Tracking our plant growth** For the final time, how have the seeds progressed since last lesson? Let's update our plant tracker and check what we have learnt. Was it what we expected? **Plant Life Cycle** Over the last five weeks, we have looked at the life cycle of a plant. The stages are - germination, growth, flowering, pollination and fertilisation, seed dispersal. *Children complete a matching activity, so each lifestyle of a plant is matched to its correct description.*

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	improvements and raise further questions.	
7	**Learning Objective:** To demonstrate what has been learnt about plants.	**ASSESSMENT LESSON** Children will complete an assessment task, which could be summative, or it could be a quiz style assessment or written task which draws on the knowledge learnt.

Learning Outcome/product
By the end of this unit, children will be able to: ● describe and explain how seeds are dispersed and then germinate. ● explore the requirements of plants for life and growth (air, light, water, nutrients from soil and room to grow) and how these vary from plant to plant. ● set up a simple comparative test to investigate plant growth conditions. ● describe the roots and stem of plants and explain their functions. ● describe and investigate water transportation in plants. ● explain the primary function of leaves. ● identify changes, patterns and similarities and differences from their observations to help answer questions and draw conclusions. ● identify the parts of a flower and explain the function of flowers. ● describe the processes of pollination and fertilisation in plants. ● describe the life cycle of a flowering plant.

Assessment records	**List only those children who have not achieved the expected outcomes.**