Year group: 3	Subject: Science	Unit 4 – Plants
National Curriculum objectives:	National Curriculum skills:	Sticky Knowledge:
• 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	• 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.	✓ Many plants, but not all, have roots, stems/trunks, leaves and flowers/blossom. ✓ The functions of roots, stems, leaves, flowers ✓ 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.
Prior Knowledge	End Point	Preparing for future learning
• Observe and describe how seeds and bulbs grow into mature plants. (Y2 - Plants) • Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. (Y2 - Plants)	Most children will be able to: • Identify and explain the functions of the different parts of the plants. • Set up an investigation and make predictions. • Make observations and conclusions. • Identify different parts of the plants. • Identify and describe the stages of the life cycle of flowering plants. • Be able to answer questions based on their learning. Some children will be able to: • Set up reliable and accurate investigations. • Make and explain predictions. • Be able to ask and answer questions based on their learning using scientific language.	• Describe the life process of reproduction in some plants and animals. (Y5 - Living things and their habitats) • Reproduction in plants, including flower structure, wind and insect pollination, fertilisation, seed and fruit formation and dispersal, including quantitative investigation of some dispersal mechanisms. (KS3)
Vocabulary:	Cultural Capital/Diversity:	Possible misconceptions
Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal), Absorb, Anther, Branches, Bulb, Fertilisation, Fertiliser, Germination, Nutrients, Ovule, Pollen, Pollination, Roots, Seed, Stem, Stigma		Some children may think: • 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.
Cross Curricular links/lessons:	English, Maths, I.C.T skills:	Assessment for Learning:
Topic – Life all around us	Maths – Measuring ICT – Researching online Writing – Extended writing on the life-cycle of flowering plants	Regular retrieval tasks Listening to children conversations/questioning Observing children's working scientifically skills (ASE TAPS focused assessments) Blue paper Task – knowledge Quizzes Concept Cartoons

Lesson	Lesson objective:	Knowledge and Vocab	Key resources: (Including adaptations and Challenge)
1	Initial Assessment – What do I already know about plants? To know the parts of flowering plants and their functions.	✓ 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.	Retreival of plants https://explorify.uk/en/activities/odd-one-out/what-is-inside-flowers - odd one out class discussion Selection of real flowering plants or pictures of plants ICT

		✓ The leaves use sunlight and water to produce the plant's food. ✓ Some plants produce flowers which enable the plant to reproduce. Vocabulary: Absorb, Anchor, Branches, Bulb, Flower, Germination, Leaves, Petals, Roots, Seed, Stem	Find out about parts of plants Investigate their jobs through research/discussion Sort and match *Challenge:* explanation about the parts of the plant *Adaptations*: stem sentences, word banks,
2	To know what plants need for survival	✓ Different plants require different conditions for germination and growth. Vocabulary: air, light, water, nutrients from soil, and room to grow	Pictures of plants in different environments Seeds/plants Soil Pots Look at pictures of plants from a variety of environments – discuss what these plants need Decide on and set up investigation to test plants being deprived of a different variable Record predictions Continue to record results over unit *Challenge:* Do not give variables *Adaptations*: table for results, stem sentences, word banks, supportive pairs/flexible pairing
3	To know how water is transported in plants	✓ The stem transports water and nutrients/minerals around the plant Vocabulary: Stem, transportation	Link: https://www.stem.org.uk/resources/elibrary/resource/35889/water-and-plants Discuss how water is transported in plants Carry out investigation and make observations, predicting as you go – may need to set up and return to it later in the week. Show diagram Explain in groups. *Challenge:* written explanation of water moving through a plant *Adaptation*: stem sentences, word banks, supportive pairs/flexible pairing
4	To know the life-cycle of flowering plants	✓ 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. Vocabulary: reproduce, pollen, seeds, dispersed	https://www.bbc.co.uk/bitesize/articles/z2vdjxs discuss life cycle of a plant with pictures and explanations. Children to draw and write life cycle of a plant Discuss seed dispersal – chn draw or write about different ways in which seeds are dispersed *Challenge:* detailed written explanation, *Adaptation*: images, stem sentences, word banks
	End of unit assessment – see knowledge organiser for key information		
Notes:			