ST LAWRENCE C.E. PRIMARY SCHOOL LEARNING JOURNEY

SUBJECT: Science UNIT: Plants TERM: Autumn 1 YEAR GROUP: 2

Big Question:	
How do plants make new plants?	
END OF UNIT OUTCOME	Make egg and cress sandwiches with cress we have grown ourselves.
OBJECTIVES	• observe and describe how seeds and bulbs grow into mature plants • find out and describe how plants need water, light and a suitable temperature to grow and stay healthy
Working Scientifically	To ask and answer questions about what they observe Know that when we **observe** the world to answer these questions, this is science Know that we can use **magnifying glasses** to observe objects closely. Know that we can write down numbers and words or draw pictures to **record** what we find. observing and recording, with some accuracy, the growth of plants as they change over time from a seed or bulb (grass heads) setting up a comparative test to show that plants need light and water to stay healthy
Safety in Science	CLEAPSS - Primary
CONCEPT: Leadership	
LESSON 1 QUESTION	**What are the different parts of a plant and their functions?**
KEY KNOWLEDGE	- a plant is a living thing that grows in the earth and has a stem, leaves, and roots - the roots of a plant act as an anchor, fixing the plant into the ground. They also absorb water and nutrients to help the plant to grow - the stem of a plant grows above the ground and is used to transport water and nutrients around the plant. The leaves and flowers grow from the stem. - a plant's leaves absorb sunlight and turn it into energy that the plant uses to grow - the flower is the part of the plant where seeds are made - plants spread their seeds in order to reproduce
RICH TASK	Introduce The Big Question – what do they already know? Explore KO – copy in book after title page and paper copy home. Annotate key question to identify prior knowledge. Have a selection of plants on the table (out of soil). Give children magnifying glasses and spend time examining the plants and sketching them. Give them labels – roots, stem, leaves, flowers and ask chn to label them. Then give labels: Fix plant into the ground. Absorb water and nutrients. Grows above the ground. Takes water and nutrients around the plant. Absorb sunlight to make energy Where the seeds are made. Can children work out which part of the plant these labels go with? Discuss what the different parts of the plant do. If time, go outside to look at other plants and how their leaves/ stems/ flowers are different.

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	BRING IN YOGHURT POTS FOR WEEK 3		
SUPPORT AND CHALLENGE	**Support-** keep the activity practical – look at plants with children and allow them to explore- children could plant a plant and discuss what they would need to do to help it grow. Focus on learning on what one part of the flower does e.g. roots and create a mind map. Then this can be built upon as child learns about roots of other parts of the plant. **Challenge –** children to explore the range of plants how do you think seed dispersal happens for each of these plants? Children can draw the plant and label if they think the seeds are dispersed by wind, water, animal or explosive methods		
KEY VOCABULARY	Observe Identify Sort Record Stem Leaves Root flower/petal	**RESOURCES**	flowers
LESSON 2 QUESTION	**What is the life cycle of a bean plant?**		
KEY KNOWLEDGE	- The bean is a seed of the bean plant. - A planted bean seed germinates and, after 2-3 days, a shoot appears. - The bean seed will start to take root and a stem will appear. The bean uses the food in the seed to grow taller. - If the bean plant has water and sunlight, it will grow tall and then it will flower. - Eventually pods of beans will grow on the bean plant. Each one of these is a seed. - Each seed can fall into the soil and become a new seedling, ready to grow into a whole new bean plant. When the conditions are right, a seed soaks up water and swells, and the tiny new plant bursts out of its shell. This is called germination.		
RICH TASK	Show children a bean seed. What is this? What happens for it to grow? Introduce the word 'germination' and watch Germination Of A Seed (Time Lapse) (youtube.com) . Explain how a time lapse works and that this actually took ten days. Model to the class how to make a bean in a bag. Follow the instructions in the resource sheet. Then ask the chn to work in teams to make their own bean in a bag. When they have finished, they may tape the bean onto a window or peg onto a washing line. Ask each child to predict what they think will happen to the bean. Give them the 'My Bean in a Bag Diary' sheets and ask them to fill in the first week. Make a large copy of the 'Bean in a Bag (in a Cupboard) Diary'. Place one bagged bean in a cupboard, talk about what might happen to the bean and its growth. Use the word 'predict' when discussing this. Use bean lifecycle posters in groups to predict the lifecycle		
SUPPORT AND CHALLENGE	**Support-** children can draw rather than write their diary and add key labels. **Challenge-** discuss with children how we have one in dark and one in the light. Are there any other variations that we could test to see how the bean grows? Children predict what may happen in those conditions.		
KEY VOCABULARY	Bean Seed Germinates/Germination Shoot Water Sunlight Pods Soil	**RESOURCES**	Germination Of A Seed (Time Lapse) (youtube.com) Bags Bean seeds Staplers and staples Paper towels Bean diary sheets Bean lifecycle posters

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	seedling		
LESSON 3 QUESTION	**What do plants need to grow?**		
KEY KNOWLEDGE	- Know that like all living things, plants need to reproduce, or make more of themselves. - some plants rely on the wind to spread their seeds and other plants rely on animals to spread their seeds - every single seed has the beginnings of a new plant inside it, along with a little store of food to help it grow - when the conditions are right, the seed soaks up water and swells, and the tiny new plant bursts out of its shell. This is called germination.		
RICH TASK	Bean Observations Look at a range of different seeds (grapes with pips, a sunflower head of sunflower seeds, orange with pips, avocado cut in half, pumpkin seeds, apple pips, etc.). Give children time to observe with magnifying glasses and then discuss what we have seen. What are these and what is in them? How do they spread around? Watch How do plants spread their seeds? - BBC Bitesize EXPLODING seed pods make Sir David Attenborough laugh 💥😂 The Green Planet 🌿 BBC (youtube.com) Sort images of seeds and how they disperse in groups. Start Cress Heads: Explain to the chn that they will be growing their own cress and will be planting it today to eat it in two weeks. With a talk partner can they predict what will happen to the cress seeds? Questions they should think about are: how long will it take for the seeds to start to grow? How long until the cress is full-grown? How big do they think the cress will be when it is fully-grown? Give them a couple of minutes to come up with their answers and then collect together their ideas and predictions. Then show the chn this time lapse clip of cress growing. Were their predictions correct?. Explain that they won't be able to see their cress grow, but that it does grow quite quickly, so it is worth looking for changes every morning and after the weekend. Model how to create cress head and then children create their cress heads. Place my cress head in a cupboard to compare growth with / without light		
SUPPORT AND CHALLENGE	**Support** – with seed sorting children only select the seeds that transported by wind. You can then discuss why these particular seeds would travel by wind **Challenge** – discuss how we learnt about seeds spreading through dispersal but plants can also spread through pollination. Children sort and order the pollination cards to decide what order this happens in.		
KEY VOCABULARY	Observe Seeds Magnify glass Cress Dispersal	**RESOURCES**	Seed resource sheets Cress head resource sheets Cress seeds Cotton wool pads Googly eyes White paper

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			Growing Dandelion from Seed to Seed Head (1 Year Time Lapse) (youtube.com) – Good to watch to see dandelion seeds grow
LESSON 4 QUESTION	**What is a bulb?**		
KEY KNOWLEDGE	- Know that some plants grow first from a seed, and then develop a bulb that helps them to grow back year after year. - a bulb lets the plant rest underground over the winter when it is too cold, then grow back later in the year when conditions are right - daffodils, tulips, snowdrops and lilies are common plants that grow from bulbs		
RICH TASK	Recap what we know about seeds. Look at some bulbs and discuss what they are. Children should not touch the bulbs. Explain facts as above and watch Tulips Growing Time Lapse | 90 Days From Bulbs (youtube.com) Complete Bean and Cress Head observations		
SUPPORT AND CHALLENGE	**Support-** draw observations and label. Children then sort bulbs and seeds to show they can see the difference. **Challenge** – children label parts of a bulb, how are they different to seeds?		
KEY VOCABULARY	Bulbs Observe Seed Types of flowers Magnify glass	**RESOURCES**	Selection of bulbs Magnify glasses Tulips Growing Time Lapse | 90 Days From Bulbs (youtube.com)
LESSON 5 QUESTION	**How can a magnify glass help us observe?**		
KEY KNOWLEDGE	- To ask and answer questions about what they observe - Know that when we **observe** the world to answer these questions, this is science - Know that we can use **magnifying glasses** to observe objects closely.		
RICH TASK	Ask the chn to look carefully at their cress heads. Encourage them to look through the magnifying glasses and to talk to each other about what they can see. Ask: *Is it different to what you expected? What can you see through the magnifying glass that you can't see with the naked eye? What shapes can you see? Can you draw what you can see, in your sketchbooks?* Give them time to do this and then ask them to label the different parts of the cress that they can see (stem, roots, leaves). Ask them: *Has this turned out like you expected? Is this what you predicted? Is it similar or really different to what you expected? What has happened? Why has this happened?* Then explain that the healthy cress is actually ready to eat and that they are going to make sandwiches to put their cress into. Create egg and cress sandwiches and enjoy! Explain that their cress will actually grow back again, if they keep it watered and at the right temperature. It should be cut and grow back several more times		
SUPPORT AND CHALLENGE	**Support** – children to draw and label cress – give the children labels to stick onto their drawing. Use visuals to support order on how to make a sandwich. **Challenge** – children create the life cycle of cress – they can draw and label in their books.		
KEY VOCABULARY	Stem Root	**RESOURCES**	Bread Butter

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	Leaves Magnify glass		Cress Egg mayo
LESSON 6 QUESTION	**What have we learnt about plants?**		
KEY KNOWLEDGE	All information on knowledge organiser		
END OF UNIT OUTCOME	Revision of key knowledge KO quiz on kahoot or booklet Outcome linked to The Big Question – Did you enjoy your egg and cress sandwiches? Children stick in photo of their sandwich and evaluate		
SUPPORT AND CHALLENGE	**Create-** differentiated quizzes to support and challenge. Support – evaluate with key words **Challenge** – plan a cress investigation where it is grown in a range of conditions – what do they think will happen?		
KEY VOCABULARY	Leaf Flower Root Seed Bean Stem Trunk weed	**RESOURCES**	Quiz created on kahoot or booklet Knowledge organisers photos