

Learning journey	Science	Plants (How plants reproduce)	Year 4 Autumn 1	
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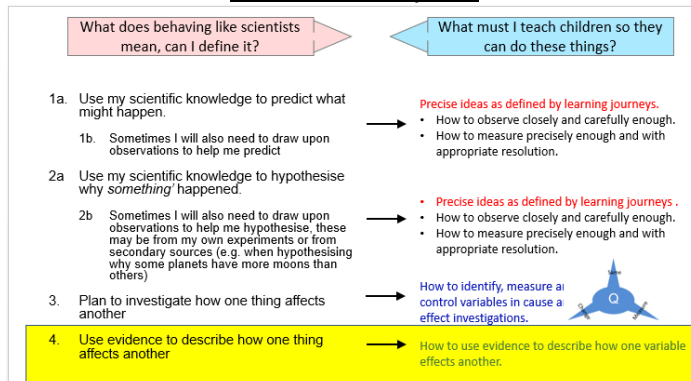
Building on prior learning	Theme overview	Preparing for future learning	Vocabulary	
<p>This links to the last unit covered on plants in Y3. They will have learned that plants don't eat food.</p> <p>They will also have learned that plants turn water from the ground and carbon dioxide from the air into sugar, which is used for energy and making new material to grow.</p> <ul style="list-style-type: none"> •To make the food (sugar) plants need water from the ground, carbon dioxide from the air and light from the sun. <p>The water is taken up through the roots from the soil The carbon dioxide is taken in through the leaves</p> <ul style="list-style-type: none"> •As well as food, plants also make oxygen which is given out back into the air through the leaves 	<ul style="list-style-type: none"> • Reproductive parts of a flowering plant • All flowers are similar but different. • Seed dispersal • What does a seed do? 	<p>Explain what the children will study in the next unit of work and where this will lead in the next year</p> <p>In Y5 children will learn about how living things, including plants, are grouped and classified.</p> <p>In Y6 children will learn about evolution and how some plants will outcompete others for survival depending on pressures placed on them over time. They will learn that plants adapt their habitats and evolve over very long periods of time.</p>	<ul style="list-style-type: none"> • Plant (names of plants they will observe in their specific local environment). <p>Soil.</p> <ul style="list-style-type: none"> • Flower, petal, fruit, seed. • Germination, seed coat, shoot, root. 	<ul style="list-style-type: none"> • Reproduction, pollination, fertilization. • Pollen, egg, embryo, stigma, stamen, anther, ovary, pollen tube, nectar and nectary. • Dispersal.

NC coverage and HWJS skills development

National curriculum coverage for Science

- identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other
- identify and name a variety of plants and animals in their habitats, including micro-habitats
- explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

HWJS skills development



A Model of Progression.

1. Pose problems that require the application of knowledge being taught.
2. Deconstruct the problem to define what a child must understand and be able to do to tackle the problem (including what they need to observe and measure), teach these skills and knowledge **at that point**.
3. As children progress through the curriculum they will tackle problems using new ideas, and when the problem requires with closer observation and more precise measurement.

Good enough progression is being able to tackle these problems

Knowledge organisers

Substantive Knowledge (key ideas)

- Flowering plants **reproduce** by the process of **pollination**
 - Pollination leads to the formation of a **seed** which can grow into a new plant
 - Flowering plants have evolved specific parts to carry out pollination and seed growth
 - Those parts are **stamen** where pollen is produced, **stigma** where pollen is collected, and the **ovaries** which contains the eggs that become a seed when the pollen travels down the stigma and meets the egg
- Flowers have **petals** also are a range of colours, patterns, and smells to attract insects.

Substantive Knowledge (key ideas)

- Plants and flowers look different because they pollinate in different ways.
 - There are two types of pollination Insect and wind
 - Insect pollinated flowers are usually bright coloured and strong scents
- Wind pollinated flowers have less colourful petals and much less scent.

Substantive Knowledge (key ideas)

- Plants have evolved many different ways to **disperse** their seeds
- Seed dispersal increases the chances of seeds **germinating** and growing into a mature plant.

Substantive Knowledge (key ideas)

- A seed contains a miniature, undeveloped version of the plant
 - They contain a food store for the first stage of growth (until the plant can make its own food)
- They are surrounded with a protective coat.

Children gather evidence to describe the relationship between variables (cause and effect) by identifying what must be changed, what measured and what must be kept the same.					
<u>Connections / deepening understanding</u>	<u>RADE</u>	<u>Assessment</u>			
How is the understanding of this area deepened in other areas of the curriculum? What links are there in the other subjects in the curriculum?	Are the rights of the child relevant in this area of study - do they get referred to in the work?	By the end of the unit the children will be able to Or describe ...			
Maths – Recording data English – Writing a formal report. Geography – Where crops and plants grow around the world. Food exports/imports.	Respect for the environment. Need to look after pollinators for plant survival.	Flowering plants reproduce by the process of pollination Pollination leads to the formation of a seed which can grow into a new plant	There are two types of pollination Insect and wind	Plants have evolved many different ways to disperse their seeds	A seed contains a miniature, undeveloped version of the plant They contain a food store for the first stage of growth (until the plant can make its own food)
Assessment recording for the unit - checking the level of pitch of the work					
<u>Key skill(s)/ knowledge to be assessed by the end of the unit</u>	<u>Lower attaining</u>	<u>Middle attaining</u>		<u>Higher attaining</u>	
<ul style="list-style-type: none"> Flowering plants reproduce by the process of pollination Pollination leads to the formation of a seed which can grow into a new plant There are two types of pollination Insect and wind Plants have evolved many different ways to disperse their seeds A seed contains a miniature, undeveloped version of the plant They contain a food store for the first stage of growth (until the plant can make its own food) 	<p>Pollination is when a flower makes seeds. Flowering plants have specific parts to carry out pollination and seed growth. Flowers have petals also are a range of colours, patterns, and smells to attract insects. Seeds are then dispersed. Some will land on soil and grow to make a new plant. Others will be eaten or die as they won't land in a place where they can germinate. This can happen by a pollinator or wind. Seeds are a food store that help a seed grow into a new plant.</p>	<p>Pollination is when a flower makes seeds. Pollination leads to the formation of a seed which can grow into a new plant. Flowering plants have evolved specific parts to carry out pollination and seed growth. Flowers have petals also are a range of colours, patterns, and smells to attract insects. They collect pollen from some stamens and transfer to stigma where a seed is then formed.</p>		<p>Pollination is when a flower makes seeds. Pollination leads to the formation of a seed which can grow into a new plant. Flowering plants have evolved specific parts to carry out pollination and seed growth. Flowers have petals also are a range of colours, patterns, and smells to attract insects. Those parts are stamen where pollen is produced, stigma where pollen is collected, and the ovaries which contains the eggs that become a seed when the pollen travels down the stigma and meets the egg</p>	

		<p>Seeds are then dispersed. Some will land on soil and grow to make a new plant. Others will be eaten or die as they won't land in a place where they can germinate.</p> <p>This can happen by a pollinator or wind. Insect pollinated flowers are usually bright coloured and strong scents. Wind pollinated flowers have less colourful petals and much less scent</p> <p>Seeds are a food store that help a seed grow into a new plant. They need water to germinate but NOT light.</p>	<p>Seeds are then dispersed. Some will land on soil and grow to make a new plant. Others will be eaten or die as they won't land in a place where they can germinate. This can happen by a pollinator or wind. Insect pollinated flowers are usually bright coloured and strong scents. Wind pollinated flowers have less colourful petals and much less scent. Seed dispersal increases the chances of seeds germinating and growing into a mature plant</p> <p>Seeds are a food store that help a seed grow into a new plant. They need water to germinate but NOT light.</p>
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NB: The assessments are completed for two reasons – to enable the class teacher and in turn the subject leader to evaluate the pitch of the learning within the unit in order to consider any necessary updates and for the class teacher to report to parents on the attainment of pupils in the end of year reports