Science Project Overview Year 3 Plants

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<td>Subject Knowledge (PoS)
Substantive knowledge
• Roots anchor the plants to the ground and absorb the nutrients.
• Bright flowers attract insects the plants to encourage pollination.
• Leaves absorb the sunlight which allows the plant to make its food.
• The stem transports water and nutrients up from the roots all the way to the leaves.
• The stem transports sugars from the leaves to the rest of the plant.
• For a plant to survive it needs air, light, water, nutrients from the soil and room to grow.
• The amount of these required varies from plant to plant.
• Flowers are made up of male and female parts.
• The male parts of the plant includes the stamen which is made up of the anther and filament.
• The female part of the plant is known as the pistil. This include the stigma, style, ovary and ovule.
• Bright petals attract animals and insects to pollinate the plants.
• Once the plant is pollinated the seed forms in the ovary of the plant.
• When the seed is developed they are spread in different ways either through animal consumption or seed dispersal.</td>
<td>Working Scientifically (PoS+Overview)
Disciplinary knowledge
During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:
• 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
• classifying 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 and written explanations
• make predictions</td>
<td>Working Scientifically Methods
Using different types of scientific enquiry to answer their own questions, including:
• observing changes over time,
• noticing patterns,
• grouping and classifying things,
• carrying out simple comparative and fair tests
• and finding things out using secondary sources</td>
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<td>Previous 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)</td>
<td>Preparing for:

• 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)</td>
<td>Bespoke to our school
In this unit, children benefit from our woodland area and our trained Forest school teacher and learn about the natural world around them. Many children haven’t had these opportunities before.</td>
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Vocabulary: Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal), functions, nutrients, nutrition ,air ,transport (water), life cycle, reproduce, fertiliser		
Misconceptions: • 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		
English Links: Information texts – stems role/ what happens.		
Maths links: **Measurement:** Use the appropriate units of length (m/cm/mm), mass (kg/g) and volume/capacity (l/ml) to measure, compare, add and subtract – when calculating growth of plants etc **Statistics :** Use bar charts, pictograms and tables to present and interpret data- to plot results from investigations Use information in scaled bar charts, pictograms and tables to solve one-step and two-step questions- to look at results from investigations and discuss/write conclusions.		
Explorify links: Venus flytrap What a fun guy Furry fruits Making records Sensitive plant Friends of flowers Wet, and not so wet, leaves How can you tell if something is a plant? What if we did not plant trees? What if plants could talk?		
Possible careers/jobs: Botanist (studies plants) Conservationist (works for the protection and preservation of living things and the environment), Farmer (grows crops and raises animals for food) Forester (works to deliver wood products to the market) , Gardener (creates and maintains gardens and green spaces) Horticulturist (an expert in garden cultivation and management) Tree surgeon (plants, maintains and manages trees)		