

Science – Year 3

Plants

Do all plants need exactly the same things?

NC objectives - areas of study	End point of area of study	Vocabulary		
		Basic	Adventurous	Technical
<p>identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p> <p>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</p> <p>investigate the way in which water is transported within plants</p> <p>explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>	<p>Children are able to name the different parts of flowering plants and the function of each, They understand the role flowers play in the life cycle of flowering plants. They are able to describe the processes of pollination and seed formation and dispersal. Using evidence from investigations they can talk about the way water is transported within plants and why water is so vital for their survival. First hand experiences of growing plants in different conditions enable pupils to draw conclusions about what plants need for life and growth. They know that this can vary for different plants.</p>	<p>Air, Light, Water, Soil, Growth, absorb, male, female</p>		<p>Reproduction, Transportation, seed Dispersal, wind dispersal, animal dispersal, water dispersal pollen Pollination, Insect/wind pollination Photosynthesis nutrients, minerals seed formation</p>

Knowledge

Substantive Knowledge	Disciplinary Knowledge
<ul style="list-style-type: none"> ● Retrieval- children in ks1 have planted seeds and bulbs and watched them grow. They have named common flowering plants found locally and name some trees, naming the parts of them correctly. They know what plants need to grow healthily and what happens if plants do not have all they need. ● Lesson 1 ● Roots, soil, water, nutrients 	<p style="text-align: center;">Working as Biologists, children build upon their knowledge of different flowers, plants and trees by identifying the function of each part, as they work as botanists.</p> <p>Evidence Using first hand experiences, children are able to compare the parts of different plants, naming the parts and learning more about their function</p>

- **LO To know the function of the roots of a plant.**
- Know that different parts of plants have one or more functions (jobs)
- Know that the roots collect water and minerals from the soil, and hold the plant firmly in the ground
- **Lesson 2**
- **Stem, transportation, light,**
- **LO To know the function of the stem.**
- Know that the stem holds up the leaves so that they can gather light to make food and holds up the flowers so that they can receive pollen and disperse their fruits; know that the stem also transports water and minerals from the roots to the other parts of the plant
- Children observe flowers transporting water through the stem- use of white flowers/celery and coloured water to show this.
- **Lesson 3**
- **Light, carbon dioxide, photosynthesis**
- **LO To know the function of the leaves.**
- Know that the leaves make food by absorbing light and using its energy to turn carbon dioxide and water into carbohydrates
- **The awareness of the importance of responsibility towards plants and trees.**
- **lesson 4**
- **reproduction, pollination, dispersal, seed formation, male, female**
- **LO To know the function of the flower.**
- Know that the function of a flower is reproduction, where flowers of the same kind exchange pollen – made by an anther – in a process called fertilisation, and a structure in the flower's ovary called an ovule becomes a seed; the ovary then becomes a fruit which helps the seed leave the plant in a process called dispersal
- **Be able to understand and give meaning to something wonderful and awesome- the role of pollinators.**
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- **Lesson 5**
- **LO To know different ways plants can reproduce.**
- **(seed Dispersal, wind dispersal, animal dispersal, water dispersal, pollen, Pollination, Insect/wind pollination)**

through research and investigation. They will observe the transportation of water through a plant with the use of food colouring to watch the process. Through labelled diagrams, photographs and the use of scientific vocabulary they can record their observations.

Similarities and differences

Investigating different flowering plants pupils will be able to identify the different parts used for reproduction and how these are similar or different between them. They will understand the needs of different plants by providing different conditions for them- for example no light, no water, in fair test situations to enable them to have proof about what a plant needs to grow healthily. They will make connections between what plants don't have for example light and how this links to photosynthesis. They will use evidence to suggest other questions that can be investigated and how information would be collected to answer the question successfully.

Know the different ways in which plants can reproduce.

- Lesson 6
 - Air, light, water, growth, soil, nutrients,
 - LO To know what plants need to grow well.
 - know the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow)
 - children make observations of plants and what happens if they do not have all that they need.
 - know 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
- Children observe a contrasting plant to see how the needs differ for example cacti/ a plant that does not need regular watering in order to be healthy.

Concepts

Biology

Chemistry

Physics

SKILLS

1. Compare

2. Explore

3. Identify

4. describe

5. classify

6. Question

7. observe

8. test

9. record

10. research

ASSESSMENT

KNOW MORE, REMEMBER MORE, DO MORE...

In this unit of learning, progress has been made when a learner knows more. This 'distance travelled' from the starting point is evidenced through them remembering more and doing more: in books, low stakes quizzes, retrieval, use of mind maps, answering the big question and being able to feel more confident about this unit.