



**Topic Title:** Plants

**Year Group:** 3

**Academic Year:** 2022-2023

**Science Intent:** Children will learn the names of different parts of plants, and the jobs they do. The children will work scientifically and collaboratively to investigate what plants need to grow well. They will predict what will happen in an investigation into the transportation of water within plants. They will work practically to identify the parts of a flower and will explore the different stages of the life cycle of a flowering plant.

<p><b>Prior Scientific Learning/Linked Topics:</b></p> <ul style="list-style-type: none"> <li>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</li> <li>Identify and describe the basic structure of a variety of common flowering plants, including trees.</li> <li>Observe and describe how seeds and bulbs grow into mature plants.</li> <li>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</li> </ul>	<p><b>Literacy Links (including texts/media used):</b></p> <p>The Great Kapok Tree</p> <p>The Jungle Challenge (Bear Grylls)</p> <p>The Secret Sky Garden (VIPERS)</p> <p>From tiny seeds</p> <p>Omar, the bees and me</p>	<p><b>Maths Links:</b></p> <p>Measurement and Statistics</p> <p>Graphs</p>
<p><b>Scientific Knowledge</b></p>	<p><b>Working Scientifically</b></p>	
	<p>Children will:</p>	



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.

- Ask relevant questions and use different types of scientific enquiries to answer them, using scientific equipment with increasing accuracy.
- Gather, record, classify and present data in various ways to help in answering scientific questions.
- Record data using scientific diagrams and labels, classification keys, tables and bar charts.
- Use straightforward scientific evidence and vocabulary to answer questions and support findings.
- Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
- Identify patterns, including similarities and differences related to simple scientific ideas and enquiries.

Content:

KWL:

Children will go on a 'plant walk' around the school, drawing/taking photos of different plants they can see and once they have generated some ideas they will complete a KWL grid.

Parts of a plant:

Children will be shown images of plants. In talk partners they will discuss the parts of a plant they think they know and what they think the function of each part of the plant is. Children will then be given cut up images that make a whole plant – roots, stem, leaves and flower head. They will read information about



the parts and match the description of the function to the part plant in partners. Once answers have been checked, children will stick the parts of the plant together to make a full plant, with the description of the different functions. [https://www.youtube.com/watch?v=ql6OL7\\_qFgU](https://www.youtube.com/watch?v=ql6OL7_qFgU) - parts of a plant video song

#### Requirements for life and growth:

The class will be shown a plant that is dying/has died. Children will share their ideas about what has happened to the plant and why which will prompt discussion about what a plant needs to grow. Following on from this discussion, children will work in small groups to plan an investigation into what a plant needs to grow and survive. Each group will be given the same mature plant, grown from a bulb and will deprive it of one of the requirements (air, light, water, nutrients from soil, and room to grow). There will be a class control which has all of the necessary requirements. Over a period of 5 days, children will record their observations.

#### Investigation continued:

Children will write a conclusion based on their observations. They will compare their groups plant to the control plant and then decide which requirements they think are most important to support the growth of a plant. Children will then be prompted to consider if all plants require the same needs and carry out further research about plants around the world – cactus, pond lily and snowdrop. **Potential further investigation into the different types of soils and how they can impact the growth.**

#### Water transportation:

The children will be shown white carnations and food colouring and will be reminded about their research into the function of the stem. How might they be using the flowers and colouring to see the water within the plants and to demonstrate that the stem transports water to other parts of the plant? The children will observe the flowers turn blue and discuss what this demonstrates about water transportation in a plant. The children will then discuss if any other factors would impact the rate in which the water travels around the plant. The children will then investigate the effect of temperature and record their observations in a table. They will record a scientific question 'does the temperature affect a plants water transportation' and a prediction. Children will also consider which variables need to stay the same to ensure a fair test. Children will observe the (colour) plant in a cold and hot location and then make another observation an hour later – what has changed?



Water transportation continued:

The children will reflect on the observations they made in the previous lesson. Which plant changed colour and therefore what affect did the temperature have on the transportation of the water? Children will draw a diagram to show the transportation of water in a plant, focusing on the role of the roots and stem.

The life cycle of flowering plants:

Children will learn about the life cycle of a flowering plant and learn about each stage in detail, including the different ways seeds can be dispersed. Children will then draw diagrams to show the life cycle of a plant with key information they have learnt. Children will draw pictures of the different types of seed dispersal.

Key Vocabulary:

photosynthesis, pollen, insect/wind pollination, male, female, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal), air, nutrients, minerals, soil, absorb, transport

Stunning Start/Marvellous Middle/Fabulous Finish:

OAA/Trips/Visits/Visitors:

Cotswold Safari Park.