

# Plants

“It is the glory of God to conceal things, but the glory of kings is to search things out.” Proverbs 25:2

National Curriculum	Key Knowledge	Key Vocabulary
<p><b>NC Objectives</b></p> <p>Pupils will be taught to:</p> <ul style="list-style-type: none"> <li>To identify and describe the functions of different parts of flowering plants, roots, stem/trunk, leaves and flowers.</li> <li>To explore the requirements of plants for life and growth and how they vary from plant to plant.</li> <li>Investigate the way in which water is transported within plants.</li> <li>To explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</li> </ul> <p>Pupils will work scientifically by;</p> <ul style="list-style-type: none"> <li>Pupils will also be introduced to the idea that every part of a plant has a job to do.</li> <li>They will learn that plants can make their own food.</li> <li>They will work scientifically by comparing the effect of different factors on plant growth, for example, the amount of light, the</li> </ul>	<p><b>Lesson 1:</b> <i>Set up investigation (change something a plant needs to grow well)</i></p> <ul style="list-style-type: none"> <li>For successful growth plants need air, light and water but also nutrients from the soil and room to grow.</li> <li>Nutrients are substances that plants need from the soil to grow and stay healthy.</li> </ul> <p><b>Asking scientific questions:</b> Ask questions that help plan fair tests and investigations. <b>Planning investigations:</b> Plan simple fair tests and decide what to observe or measure.</p> <p><b>Lesson 2:</b></p> <ul style="list-style-type: none"> <li>The male part of the flower is called the stamen. It is made up of the anther and the filament.</li> <li>The female part of the flower is called the carpel. It is made up of the stigma, style and ovary.</li> <li>Flower petals are brightly coloured to attract pollinators to pollinate the plant.</li> <li>Roots anchor the plant to the ground and absorb water and nutrients from the soil.</li> <li>The stem holds the plant up and carries water from the soil to the leaves.</li> </ul> <p><b>Observing and measuring:</b> Take accurate measurements using standard units and equipment. <b>Recording and presenting data:</b> Present data using charts, graphs and labelled diagrams.</p> <p><b>Lesson 3:</b></p> <ul style="list-style-type: none"> <li>Plants can make their own food.</li> <li>Photosynthesis is how plants make their own food using sunlight, water and carbon dioxide.</li> </ul> <p><b>Observing and measuring:</b> Take accurate measurements using standard units and equipment. <b>Recording and presenting data:</b> Present data using charts, graphs and labelled diagrams.</p> <p><b>Lesson 4:</b></p> <ul style="list-style-type: none"> <li>Water is absorbed from the soil by the roots.</li> <li>Water travels up the stem to the leaves through tubes called xylem.</li> </ul>	<p><b>Essential:</b></p> <p>nutrient</p> <p>photosynthesis</p> <p>seed dispersal</p> <p>seed formation</p> <p>germination</p> <p>pollination</p> <p><b>Additional (exposure):</b></p> <p>fertiliser</p> <p>potassium</p> <p>chlorophyll</p> <p>reproduction</p> <p>anther</p> <p>filament</p> <p>stamen</p> <p>style</p> <p>stigma</p> <p>xylem</p> <p>transpiration</p> <p>stomata</p> <p>phloem</p>

amount of fertiliser.

They will observe how water is transported in plants, for example, by putting cut, white carnations into coloured water and observing how water travels up the stem to the flowers.

- The stem supports the plant and helps transport water and nutrients.
- Water is needed for photosynthesis and to keep the plant healthy.
- Transpiration is the process where water evaporates from the leaves.

**Observing and measuring:** Take accurate measurements using standard units and equipment.

**Recording and presenting data:** Present data using charts, graphs and labelled diagrams.

**Lesson 5:**

- A flowering plant has a life cycle which includes germination, growth, reproduction and seed dispersal.
- Germination is when a seed begins to grow into a new plant.
- Pollination is the transfer of pollen from one part of a flower to another.
- After pollination, seeds are formed. Seed formation is when plant produced seeds after pollination.
- Seed dispersal is the way seeds are spread away from the parent plant.

**Observing and measuring:** Take accurate measurements using standard units and equipment.

**Recording and presenting data:** Present data using charts, graphs and labelled diagrams.

**Lesson 6:**

- Seed dispersal is the way seeds are spread away from the parent plant.
- Seeds need to be dispersed so that plants can grow in separate areas. This can be done in different ways.
- Seeds will travel in the wind. This will happen to plants such as a sycamore tree. The seeds have wings so can fly through the air.
- A coconut is the seed of a palm tree. These can float and so water can take them to a different location to grow a new tree.
- Peas in a pod can sometimes do an explosion dispersal. The pod breaks open and the peas (the seeds) will disperse.
- Seeds are found in fruits. If an animal eats the fruits, it will then poo elsewhere which will have seeds in it. Some seeds also attach to animals' fur using little hooks, such as a burdock seed.
- Recap: Pollination is the transfer of pollen from one part of a flower to another so seeds can be made.
- Recap: Germination is when seed begins to grow into a new plant.
- Recap: Seed formation is when plant produced seeds after pollination.

**Observing and measuring:** Take accurate measurements using standard units and equipment.

**Recording and presenting data:** Present data using charts, graphs and labelled diagrams.

**Lesson 7:**

- Dedicate to assessments.
- Collate final findings from investigation.

**Interpreting results and drawing conclusions:** Draw simple conclusions from results and suggest explanations.

**Using scientific vocabulary and ideas:** Use appropriate scientific vocabulary to explain findings clearly.

**Skills/Enquiry:**

In this unit of work the investigation will be set up in lesson 1 (changing something that the plant needs to grow well). The children will apply and refine their enquiry skills throughout the whole unit as we take observations from our investigation each week.

**Asking scientific questions:** Ask questions that help plan fair tests and investigations.

**Observing and measuring:** Take accurate measurements using standard units and equipment.

**Planning investigations:** Plan simple fair tests and decide what to observe or measure.

**Recording and presenting data:** Present data using charts, graphs and labelled diagrams.

**Interpreting results and drawing conclusions:** Draw simple conclusions from results and suggest explanations.

**Using scientific vocabulary and ideas:** Use appropriate scientific vocabulary to explain findings clearly.

**Knowledge Retrieval:**

Quiz Basket (based on above), each lesson.

**End-point Assessment:**

Developing Experts end of unit assessment.