Plants - Biology

Year 1

End Points:

- Plants need the right temperature, light and water to grow
- Most plants grow from seeds
- If seeds do not get the right conditions, they may not grow into healthy plants
- The roots of a plant act as an anchor, fixing the plant into the ground. They also absorb water from the soil.
- The stem of a plant grows above the ground. The leaves and flowers grow from it.
- A plant's leaves absorb sunlight and turn it into energy that the plant uses to grow.
- Plants spread their seeds in order to make new plants
- When plants make seeds to make new plants, we call this reproducing
- Evergreen trees keep their leaves all year round
- Deciduous trees drop their leaves during autumn time and grow fresh leaves in spring
- We eat different parts of plants including roots, stem, leaves and sometimes the flowers
- Some plants are dangerous to eat and could make us ill
- We need a variety of fruit and vegetables in our diet

In every year of their science curriculum, pupils will encounter plants, studying them in increasing depth. The PKC curriculum has been written and planned to give pupils many opportunities to revisit knowledge and clarify their understanding, whilst learning new and interesting content that increases in sophistication as they progress through the curriculum. This unit is an introduction to plants, how they grow, what function each part has, and which common plants grow around us. There is an emphasis on pupils learning to recognise and name common plants, it is helpful if you identify plants and trees growing in the local area and also those that are common in England. Where possible, bring plants and leaves into the classroom for pupils to study.

In this unit, pupils will learn about the key parts of a plant including the roots, stem, leaves and flower. They will investigate how seeds germinate, using a fast-growing seed such as cress. They will find out the conditions that seeds are unlikely to grow in, such as in the darkness or without moisture. Where possible, encourage pupils to grow plants within the classroom, from bulbs, cuttings or seeds, taking advantage of this unit being scheduled for the summer term. Encourage pupils to take responsibility for watering and caring for plants as they grow.

Pupils will learn about deciduous and evergreen trees and will understand the differences between these two types of trees. They will link their knowledge from Seasons and Weather to the leaves of deciduous trees falling in autumn. Finally, pupils will look at the parts of plants that we eat, which will help them to prepare for learning about food and farming in Year 2. They will look at common fruit and vegetables and identify which part of the plant we eat, e.g. celery (root), spinach (leaves) etc.

This unit introduces botanists and pupils will be encouraged to think about what botanists do when they study plants. This important disciplinary knowledge will be built upon as pupils work through the curriculum.

Lesson Sequencing:

In lesson one, children will learn about what conditions plants need in order to grow. They will then explore this knowledge by setting up an investigation using cress seeds. Lesson two will explore the parts of a plant and their function in supporting the plant. In lesson three, children will build upon this knowledge through learning that plants spread their seeds to make new plants. Lesson four will look at deciduous and evergreen trees, linking to prior knowledge about parts of plants from lesson two. Lesson five will also build on knowledge from lesson two, looking at the different plants we commonly eat and which parts of the plant they are. In the assessment lesson, children will collate the knowledge learnt into a report about plants.

Misconceptions:

- Seeds are not alive
- All plants start out as seeds
- Plants are only flowering plants with colourful petals
- Seeds need sunlight to germinate
- All leaves are green
- A trunk is not a stem
- All stems are green

Working Scientifically criteria met in this unit:

- Asking simple questions and recognising that they can be answered in different ways
- Observing closely, using simple equipment
- Performing simple tests
- Identifying and classifying
- Using their observations and ideas to suggest answers to questions
- Gathering and recording data to help in answering questions