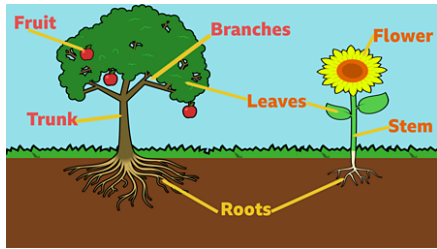


Year Group: 2

Term: Spring 2-Summer
Plants



National Curriculum objectives

S1.1g Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.

S1.1j Observe and describe how seeds and bulbs grow into mature plants.

Specific substantive knowledge—what we want learners to know in this year group?

- Plants may grow from either seeds or bulbs.
- These then germinate and grow into seedlings which then continue to grow into mature plants.
- These mature plants may have flowers which then develop into seeds, berries, fruits, vegetables (link to healthy diet)
- Seeds and bulbs need to be planted outside at particular times of year and they will germinate and grow at different rates.
- Some plants are better suited to growing in full sun and some grow better in partial or full shade.
- Plants need water, light and a suitable temperature to grow and stay healthy. Without any one of these things, they will die.
- Plants may need different amounts of water and space to grow well and stay healthy. Trees also need these aspects to survive.

What prior knowledge is this building upon? What should they focus on to build to age related?

Year 1 Plants

- Trees can be identified as large, woody plants and are either evergreen or deciduous. Trees have a woody stem called a trunk.
- The basic plant parts include root, stem, leaf, flower, petal, fruit, seed and bulb.
- Plants can be identified by looking at the key characteristics of the plant.

Year 1 Seasonal changes:

- Plants / bulbs / seeds may be growing as it is spring time

Year 2 Living things and their habitats

- Plants are classified as living. Leaves fallen on the ground were once living but are now dead.
- Plants can be part of a food chain for herbivores or omnivores

Key questions for AFL:

- *What do plants and trees need to survive and grow?*
- *Can you identify any different types of trees and plants?*
- *What are the different parts of a plant?*
- *How can you grow a plant? How does it start its life?*
- *Is a plant a living thing? Is it ever in a food chain?*

Where is this learning progressing to? (Use with knowledge ladder)

- The plant's roots anchor the plant in the ground and transport water and minerals from the ground to the plant (Year 3 Plants)
- The stem (or trunk) support the plant above the ground (Year 3 Plants)
- The leaves collect energy from the Sun and make food for the plants (Year 3 Plants)
- Flowers make seeds to produce new plants (Year 3 Plants)
- Water is transported in plants from the roots, through the stem and to the leaves, through tiny tubes called xylem. (Year 3 Plants)
- Flowering plants reproduce sexually. (Year 5 Plants)
- The flower is essential for sexual reproduction. (Year 5 Plants)
- Other plants reproduce asexually.
- Bulbs, corms and rhizomes are some parts used in asexual reproduction in plants. (Year 5 Plants)

Common misconceptions

Some children may think:

- plants are not alive as they cannot be seen to move
- seeds are not alive
- all plants start out as seeds
- seeds and bulbs need sunlight to germinate.
- A tree that is losing its leaves is not dying, it is deciduous

Discuss the difference between leaves that have fallen to the ground because they are from a deciduous tree and their leaves have fallen because it is Autumn (relating to prior learning from Year 1 Plants and Year 1 Seasonal changes) and leaves of a plant that may be shrivelled and wilting / falling off because the plant has not been given the water that it needs to survive.

Working scientifically focuses

S1.1a Ask simple questions and recognise that they can be answered in different ways

S1.1c Identify and classify

S1.1b Observe closely, using simple equipment performing simple tests

S1.1d Use their observations and ideas to suggest answers to questions

What types of enquiry will we be undertaking?

Identifying and classifying, observation over time, comparative and fair testing, pattern seeking

Process for enquiries or investigations

- Make close observations of seeds and bulbs, and classify them as to whether they are seeds or bulbs, discussing the differences. Plant each and observe the plant that grows over time. Look after the plants as they grow – weeding, thinning, watering etc. Is there a pattern between the size of the seed, the size of the plant, the speed that it grows? Do bulbs make bigger plants? Do bulbs grow quicker than seeds? (Pattern seeking)
- Observe different stages of plant growth over time (and utilising pictures / videos) - recognising the changes from a seed / bulb to a seedling to a mature plant.
- Compare different plants / trees in the local environment—do all plants and trees need the same amount of space to grow? Use pictures / visits to plants in allotments to show how much space different plants require. Link to prior learning on healthy fruit and vegetables when noticing where these are growing, recognising that these come from plants / trees
- Using knowledge of what a plant needs to grow, hypothesis which plant will grow most healthy, changing the variable—water, sunlight and combination of these. Use simple measuring tools e.g. ruler to measure which plant has grown the biggest—link to maths

How does it help learners develop their knowledge?

Learners can distinguish the differences between bulbs and seeds through physical classification processes. They can recognise and categorise plants at their different stages of growth. They can observe that plants / trees produce fruit and vegetables through direct experiences (poverty proofing) By undertaking an enquiry into plant growth and needs, they can use the variables to control the effect on the plant, hence showing what it needs to live. and thrive.

Key Vocabulary

Light, shade, Sun, warm, cool, water, space, grow, healthy, bulb, germinate, shoot, seedling, fruit, vegetable, berry, flower, stem, roots, petal, leaf
Name, label, question, identify, group, classify, watch, observe, measure