

Ashwell Primary School

Science Curriculum

Plants Knowledge Organiser



EYFS

Core Knowledge / skills to be acquired:

- identify something as a plant
- name some common plants, identify leaf, root, stem and flower
- recognise that plants need water to grow
- name some places plants live
- identify the seeds in a fruit

Key Vocabulary:

- Root, stem, tree, leaf, flower, water, seed, plant,

Curriculum Enrichment / Cultural Capital Opportunities

Prior knowledge / skills this builds on:

What comes next: (Year 1 – In the garden)

- make observations of plants, including flowers and vegetables they have planted
- identify the leaf, root, stem and flower of a plant
- identify the trunk, branch, roots and leaves of a tree
- know that plants produce seeds
- identify differences between plants
- **identify and describe the basic structure of a variety of common flowering plants, including trees**
- name some common plants
- name some plants that live in the garden
- name some plants that live in the wild
- name some trees in the local environment
- recognise that different plants live in the local environment
- use simple identification guides to name plants in the local environment
- **identify and name a variety of common wild and garden plants, including deciduous and evergreen trees**
- *compare and contrast different plants*
- *sequence pictures of how plants changes over time*
- *describe how deciduous trees changes throughout the year*
- *explain why some plants are only seen at certain times of the year*

Year 1 – In the garden

Core Knowledge / skills to be acquired:

- make observations of plants, including flowers and vegetables they have planted
- identify the leaf, root, stem and flower of a plant
- identify the trunk, branch, roots and leaves of a tree
- know that plants produce seeds
- identify differences between plants
- **identify and describe the basic structure of a variety of common flowering plants, including trees**
- name some common plants
- name some plants that live in the garden
- name some plants that live in the wild
- name some trees in the local environment
- recognise that different plants live in the local environment
- use simple identification guides to name plants in the local environment
- **identify and name a variety of common wild and garden plants, including deciduous and evergreen trees**
- *compare and contrast different plants*
- *sequence pictures of how plants changes over time*
- *describe how deciduous trees changes throughout the year*
- *explain why some plants are only seen at certain times of the year*

Key Vocabulary:

petal, tall, taller, tallest, wild, trunk, similar, different, within, under, next to, soil, blossom, fruit, leaves, branch, bulbs, shrub, alive, vegetables, grass, garden, habitat, deciduous, earth, evergreen, compost, non-living, living, not alive, dead, artificial

Names - e.g. daffodil, daisy, sunflower, rose, lavender, tulip, snowdrop, holly, dandelion, oak, beech, chestnut, pine

Curriculum Enrichment / Cultural Capital Opportunities

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Prior knowledge / skills this builds on: (EYFS)

- identify something as a plant
- name some common plants, identify leaf, root, stem and flower
- recognise that plants need water to grow
- name some places plants live
- identify the seeds in a fruit

What comes next: (Year 2 Growing Plants)

- know that flowering plants produce seeds which grow into new plants
- know that some plants have bulbs from which they grow
- make observations of plants over time
- explore how plants from seeds and bulbs grow
- describe what happens to bulbs during the plant cycle as they grow
- describe what happens to a seed as it grows and develops
- describe what they observe as new plants grow
- **observe and describe how seeds and bulbs grow into mature plants**
- *compare the plant cycle for a plant from a seed with that from a bulb*
- suggest how to find out about what plants need in order to grow well
- recognise that plants are living and need water, light and warmth to grow
- describe differences between plants grown in the light and in the dark
- **find out and describe how plants need water, light and a suitable temperature to grow and stay healthy**
- *explain how to look after a variety of plants*
- *know that a seed and bulb both contain everything a plant needs to grow*
- *explain that seeds and bulbs do not need light to germinate and identify how this is different to the needs of a plant*

- *explain how plants in the desert survive with little water and plants in the rainforest survive with little light*

Year 2 – Growing Plants

Core Knowledge / skills to be acquired:

- know that flowering plants produce seeds which grow into new plants
- know that some plants have bulbs from which they grow
- make observations of plants over time
- explore how plants from seeds and bulbs grow
- describe what happens to bulbs during the plant cycle as they grow
- describe what happens to a seed as it grows and develops
- describe what they observe as new plants grow
- **observe and describe how seeds and bulbs grow into mature plants**
- *compare the plant cycle for a plant from a seed with that from a bulb*
- suggest how to find out about what plants need in order to grow well
- recognise that plants are living and need water, light and warmth to grow
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- *explain how plants in the desert survive with little water and plants in the rainforest survive with little light*

Key Vocabulary:

seedling, bulb, buds, shoot, water, sun light, seeds, nuts, fruit stones, warm, grow, temperature, germinate

Curriculum Enrichment / Cultural Capital Opportunities

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Prior knowledge / skills this builds on: (Year 1 – In the garden)

- make observations of plants, including flowers and vegetables they have planted
- identify the leaf, root, stem and flower of a plant
- identify the trunk, branch, roots and leaves of a tree
- know that plants produce seeds
- identify differences between plants
- **identify and describe the basic structure of a variety of common flowering plants, including trees**
- name some common plants
- name some plants that live in the garden
- name some plants that live in the wild
- name some trees in the local environment
- recognise that different plants live in the local environment

What comes next: (Year 3 – Investigating Plants)

- identify parts of flowering plants
- **identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers**
- describe why healthy roots and a healthy stem are needed for plants to grow
- recognise that the leaves of a plant are associated with healthy growth and more specifically nutrition
- recognise that plants need light, water and warmth and healthy leaves, roots and stems in order to grow well
- know that water travels from the roots up the stem
- **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**
- know that plants make their own food
- know that fertilisers contain minerals
- understand that plants absorb minerals from the soil (Teacher Note: plants create

- use simple identification guides to name plants in the local environment
- **identify and name a variety of common wild and garden plants, including deciduous and evergreen trees**
- *compare and contrast different plants*
- *sequence pictures of how plants changes over time*
- *describe how deciduous trees changes throughout the year*
- *explain why some plants are only seen at certain times of the year*

- their own food using sunlight, water and carbon dioxide, they do not absorb food from the soil)
- describe how changes to light and fertiliser affect plant growth
- *explain that differences in plant growth are due to the amount of light and/or water*
- **investigate the way in which water is transported within plants**
- describe how the stem has a role in support and nutrition (transport of water)
- *explain why healthy roots and a healthy stem are needed for plants to grow*
- **explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal**
- describe why plants need flowers
- sequence pictures to show the life cycle of a plant
- describe how pollen and seeds are dispersed
- explain the role of bees and insects in pollination
- *describe the processes of pollination, seed formation and seed dispersal*
- *compare the roots of different plants (e.g. desert plants or rainforest trees*
(Teacher Note: rainforest trees have very shallow roots as the quality of the soil is poor and most of the nutrients are near the surface)

Year 3 – Investigating Plants

Core Knowledge / skills to be acquired:

- identify parts of flowering plants
- **identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers**
- describe why healthy roots and a healthy stem are needed for plants to grow
- recognise that the leaves of a plant are associated with healthy growth and more specifically nutrition
- recognise that plants need light, water and warmth and healthy leaves, roots and stems in order to grow well
- know that water travels from the roots up the stem
- **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**
- know that plants make their own food
- know that fertilisers contain minerals
- understand that plants absorb minerals from the soil (Teacher Note: plants create their own food using sunlight, water and carbon dioxide, they do not absorb food from the soil)
- describe how changes to light and fertiliser affect plant growth
- *explain that differences in plant growth are due to the amount of light and/or water*
- **investigate the way in which water is transported within plants**

Key Vocabulary:

- Ground, transport, attract bees, catch sunshine, green, air, nutrients, growth, pollen, pollination, seed formation, seed dispersal, nutrition, support, anchor, reproduction

- describe how the stem has a role in support and nutrition (transport of water)
- *explain why healthy roots and a healthy stem are needed for plants to grow*
- **explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal**
- describe why plants need flowers
- sequence pictures to show the life cycle of a plant
- describe how pollen and seeds are dispersed
- explain the role of bees and insects in pollination
- *describe the processes of pollination, seed formation and seed dispersal*
- *compare the roots of different plants (e.g. desert plants or rainforest trees)*
- *(Teacher Note: rainforest trees have very shallow roots as the quality of the soil is poor and most of the nutrients are near the surface)*

Curriculum Enrichment / Cultural Capital Opportunities

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What comes next: