

Subject: Science	Year Group: 1	Unit: Brilliant Brackley / Banbury											
First- hand experience: Exploration of environment within school grounds and in the local neighbourhood. Dissection of flowers and examination of bedding plants													
NC Objectives to be addressed:		Prior Learning required:											
Objectives in this term: <ul style="list-style-type: none"> Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants. Objectives appearing in each term: <ul style="list-style-type: none"> Observe changes across the four seasons Observe and describe weather associated with the seasons and how day length varies 		In Early Years children should: <ul style="list-style-type: none"> Be able to show care and concern for living things. Have some understanding of growth and change. Be able to talk about things they have observed including animals Know some names of trees and flowers 											
<table border="1"> <tr> <td>Biology</td> <td>Chemistry</td> <td>Physics</td> </tr> <tr> <td colspan="3">Working scientifically</td></tr> <tr> <td>Comparative and fair testing</td> <td>Pattern seeking</td> <td>Observing over time</td> <td>Secondary sources</td> <td>Classifying and grouping</td> </tr> </table>		Biology	Chemistry	Physics	Working scientifically			Comparative and fair testing	Pattern seeking	Observing over time	Secondary sources	Classifying and grouping	Where next? World changes throughout history Throughout the year as the deciduous trees change The great rainforests year 2
Biology	Chemistry	Physics											
Working scientifically													
Comparative and fair testing	Pattern seeking	Observing over time	Secondary sources	Classifying and grouping									
Key Vocabulary:													
branch	Parts of the tree that grow out from the trunk and contain leaves, flowers or fruit	root	The part of the plant/tree that draws up water to help support the plant, and to help the plant make food from light										
bulb	A type of seed which flowers every year	soil	The upper layer of earth where plants can grow.										
deciduous	Trees which lose their leaves in winter, and regrow new ones in spring	temperature	How much heat is around										

evergreen	Trees which never lose their leaves	Season (spring etc)	The time of year it is
Flower/flowering	A sometimes colourful part of a tree/plant that helps the tree/plant to make fruit and seeds, seeds and therefore new trees/plants	Wild plant	A plant that grows in the wild
plant	A living thing that grows in the ground, usually has leaves, flowers and roots, and needs the sun and water to survive	Other plants growing in your area	See the below guides.
fruit	The part of a plant/tree that contains seeds to help new plants/trees grow		
Leaf/leaves	The part of a plant that makes its food from light (trees do NOT get food from the soil)		
petal	The colourful part of a flower. It is colourful to attract insects to help pollinate it.		
Stem/trunk	The part of a plant/tree that is filled with water to help support it		

Sequence of learning:

Lesson 1:

To gain first hand experiences, children should acquire knowledge of the various trees on the school site. A guide to the different trees there might be on you site is here: https://d3d0b0dc-e4af-4b9c-ae58-7877b57a56b6.filesusr.com/ugd/562348_9ed515c2b0c245b1907defb331b228e6.pdf

<https://www.discoverthewild.co.uk/resources>

It would be extremely powerful if children have this knowledge, and are comfortable with this level of language from such a young age.

In our school site, there are horse chestnut (conker) trees, willow trees, oak trees, ash trees (change for school site) builder, red acer

The different trees have different sizes and structures of leaf. Children will know what the different leaves look like for the different trees, and so be able to identify them, so that when the teacher refers to changing seasons, and what is happening to the deciduous trees, he/she refers to the trees by their actual name, so that children know what the trees are called.

Lesson 2:

Children will know what the following plants look like, and the will be able to identify them in the local area (area dependent, a guide to what various weeds might be called in your area can be found <https://dengarden.com/gardening/A-Guide-to-Common-Weeds-Names> , and a guide to what garden plants there might be can be found <https://www.theenglishgarden.co.uk/plants/top-10-cottage-garden-favourites/> , again, it would be extremely powerful, and relevant if pupils could identify the plants in their local area, and this would enable them to have more informed conversations about their surroundings)

- Dandelion

- Daisy
- Buttercups
- Clover
- Raspberries
- Strawberries
- Grape vine
- Potatoes
- Carrots
- Nettles
- Thistles
- Any planted plants in the school (any hydrangeas? Lavender?)

Children will know which plants are wild and which have been specifically planted

For a plant to be healthy and to grow, it needs light, water, warmth and air

Lesson 3:

There are 4 seasons: spring summer, autumn and winter

At the moment it is just changing from summer to autumn, and that this happens at the end of September (21st)

In the next few weeks some of the leaves on the deciduous trees will start to turn brown and fall off

The deciduous trees in our site are the horse chestnut, willow, oak and ash trees

Lesson 4:

An evergreen tree always has leaves, even in Winter

A deciduous tree loses its leaves in the Autumn and new buds begin to appear in Spring

Trees and plants have leaves for making food (photosynthesis)

Deciduous trees have leaves that are thin, and have a large area

Evergreen trees have leaves that are more pointy and narrow

Lesson 5-6:

A tree has roots, a trunk, bark, branches, twigs and leaves

A flower has roots, a stem, leaves, a flower head with petals

Flowers, plants and trees grow from bulbs and seeds

Flowers are for attracting insects to help make seeds

Leaves make the flower's food

Stems hold up the plant

Roots anchor the plant and take in water

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Resources and teacher subject knowledge:

Useful websites and webpages:

https://www.youtube.com/watch?v=bLhTgTwbYMI&index=1&list=PLcvEcrsF_9zLl1enZ2h4kF396AtH90d9F (Parts of a plant)

https://www.youtube.com/watch?v=cgvIrtGnG6s&index=6&list=PLcvEcrsF_9zLl1enZ2h4kF396AtH90d9F (Classifying and grouping plants)

https://www.youtube.com/watch?v=jFVOI9Duj8M&list=PLcvEcrsF_9zLl1enZ2h4kF396AtH90d9F&index=8 (Are plants the same all year round?)

<https://www.bbc.co.uk/bitesize/topics/zpxnyrd/articles/zw2y34j> (What plants can you find outside and how do they change?)

<https://www.bbc.co.uk/bitesize/topics/zpxnyrd/articles/z3wpsbk> (The parts of a plant)

Potential engagement questions:

- What are the main parts of a plant or flower called?
- What are the main parts of a tree called?
- What is the difference between a tree and a plant?
- Are all plants green all year?
- Why do seeds look different?
- What is the biggest/smallest/smelliest (etc) tree/flower in our local environment?
- Which tree has the biggest leaf?
- How do leaf sizes vary?
- What sort of trees are there in our school grounds?

Possible lesson ideas

The trees and plants (that have been planted) in our school grounds

Recap possible EYS knowledge) Explore the immediate school environment with simple identification key. Children to find out what common trees and plants are growing in the immediate locality.

Observe: How many of a particular tree are there? What different leaf shapes are there?

Classify: leaves by size or shape

Plants that grow in our garden and plants that are wild

Define 'domestic' vs 'wild'. Explore a local park or wooded area to identify trees and plants using leaves and bark patterns. Understand that plants and trees can have been specifically planted in a park or garden and some are growing wild.

Identify plants using a simple identification key.

Research: wild plants using internet or a 'big book'

The seasons and seasonal change

There are 4 seasons – Spring, Summer, Autumn and Winter

In Autumn

Seasonal change What season are we in? What will happen to the temperature and weather in the coming weeks and months? Establish that there are 4 seasons – Spring, Summer, Autumn and Winter and identify the months of the year associated with each season.

When do plants begin to grow? When are they in full leaf? When do leaves turn brown? Why don't plants grow in Winter?

Identify deciduous and evergreen trees

Recap the learning about seasons from the last lesson. Establish that trees can lose their leaves (deciduous) or keep them (evergreen) throughout the year.

Find patterns: in the leaf shapes of deciduous trees vs evergreen trees. What shape are evergreen leaves?

Observe over time: trees in the school grounds weekly (May need to be continued into term 2. Record observations of changes to leaf colour and identify when leaves begin to drop. Compare to identified evergreens.

The main parts of a tree and a flower

Children look at the main parts of a fully grown tree and connect these to those of a flower. Children to look at and label the main, basic parts of a flowering plant – flower, petal, stem, leaf roots – and understand the purpose of each part. Examine cut flowers with magnifiers and the roots and structure of bedding plants – Remove from pots, dissect flowers - Label a diagram and add notes (supported if necessary). Make the connection between bulbs and seeds (daffodil and sunflower) and the plants they produce.