



Year 1 Science lessons pack

Which is my favourite wildflower and why?



Year 1

Science lessons pack

ENQUIRY QUESTION

Which is my favourite wildflower and why?

LINKED HARMONY PRINCIPLE

The principle of the Cycle

The six lesson plans in this pack can be used to deliver the science content for the Year 1 enquiry of learning *Which is my favourite wildflower and why?*, linked to the principle of the Cycle.

This science learning builds on children's understanding of plants and the foundations of science learning that will have been explored through the area of Understanding the World in the EYFS and their prior learning in Year 1.

‘We can all sow seeds to help wildflowers grow.’

Each lesson plan includes opportunities to refer to the children's prior learning, as well as questions to use to reflect on current learning and to assess the children's developing knowledge and understanding. In addition, lessons feature key elements that are distinctive to the Harmony approach to teaching and learning, for example: opportunities to **learn about Nature**, to **learn in Nature** and to **learn from Nature**.

A summary of each of these elements in relation to the six lesson plans in this pack is set out on the next pages.



01 - Learning about Nature

The statutory requirements of the National Curriculum set out what children need to learn about Nature – although, of course, their wider learning about Nature will extend beyond this.

As children progress through their primary education, we can map the journey that their science learning about plants will take. By understanding their prior learning about plants in the EYFS, and by looking ahead to the path that their learning about plants will take in Years 2 to 6, we are better able to plan for progression.

The table below shows where the science learning about plants covered in the lesson plans in this pack sits within this journey.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
ENQUIRY	Understanding the world	Which is my favourite wildflower and why?	What can we learn about the plants that grow in the UK?	How can we identify native trees in autumn?	Why should we protect the biodiversity of the rainforest?	How can we restore our UK habitats back to health?	Where do we find awe and wonder in Nature?
SUMMARY OF LEARNING	Children will be guided to increase their knowledge of the plants that live within the ecologically diverse world around them. They will engage in hands-on activities, such as planting seeds and bulbs, observing growth, growing food and identifying plant parts, and will begin to understand the effect of changing seasons	Children learn to identify a variety of common flowering plants, including local wildflowers and trees. They begin to identify and describe the structure of a flowering plant. They observe the changes that occur across different seasons	Children learn about the needs of a plant, including water, light and temperature. They begin to describe how seeds and bulbs grow into mature plants and start to recognise some of the plants that provide us and other animals with food. They identify how some plants are suited to the habitats in which they live	Children develop their knowledge of the needs of plants to include healthy soil and nutrients. They recap the structure of a plant and learn the function of each part of the plant. Children investigate how water travels within the plant	Children explore living things within different food chains, identifying producers, predators and prey. They learn how to use classification keys to help group, identify and name a variety of plants and animals within local and wider environments. They learn about the potential dangers to living things that can be caused by changes in environments	Children learn to describe the differences in life cycles of different living species within a variety of UK habitats. They will build on their knowledge of how plants reproduce, including seed dispersal and pollination, and learn about photosynthesis	Children will continue to develop their understanding of classifying plants according to common observable characteristics and based on similarities and differences
KEY VOCABULARY	flower, tree, seed, bulb, leaf, fruit, seasons, blossom, petal	deciduous, evergreen, wildflower, roots, branches, stem, trunk, nectar, pollen	germinate, seedling, shoot, emerge, sprouts, root hairs, mature, root vegetables, absorb, drought-resistant, suited	flowering plant, nutrients, bark, twig, trunk, seed dispersal	tropical, temperate, rainforest, food chain, producer, predator, prey, environment, habitat, microhabitat, classification key	moorland, heathland, wetland, reproduction, carpel, stamen, anther, filament, stigma, style, ovary, ovule, indicator species, endangered, photosynthesis	classification, characteristics, adaptation, evolution

The table below sets out what the children’s learning about plants will look like over the course of the six science lessons.

Week 1	Week 2	Week 3
What are wildflowers and where do we find them?	What’s the same and what’s different about plants?	How do plants get water?
Identify and name a variety of common wild and garden plants Identify and describe the basic structure of a variety of common flowering plants	Identify and describe the basic structure of a variety of common flowering plants, including trees	Identify and describe the basic structure of a variety of common flowering plants, including trees
Week 4	Week 5	Week 6
Why are flowers important?	How do bees, butterflies and other insects help plants?	How do flowering plants and trees change through the seasons?
Identify and name a variety of common wild and garden plants Identify and describe the basic structure of a variety of common flowering plants, including trees	Identify and name a variety of common wild and garden plants Identify and describe the basic structure of a variety of common flowering plants, including trees	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, including trees Observe changes across the four seasons



02 - Learning in Nature

In addition to learning about Nature, a Harmony approach also provides suggestions for rich opportunities to learn in or alongside Nature, as the six science lessons in this pack demonstrate.

For example, the children will experience opportunities to explore and name real flowering plants and trees in the school grounds and local area; they will learn to identify and name the parts of these plants and to observe first-hand seasonal changes over time.

As they learn in Nature, the children will also experience opportunities to develop their skills in working scientifically. Although these skills will be developed incrementally over time (as shown in Appendix A), the coverage of these skills within the sequence of these six lessons is set out below.

Week 1	Week 2	Week 3
What are wildflowers and where do we find them?	What's the same and what's different about plants?	How do plants get water?
Gathering and recording data to help in answering questions	Observing closely, using simple equipment	Using their observations and ideas to suggest answers to questions
Scientific enquiry type: Research secondary sources; Identifying, classifying and grouping	Scientific enquiry type: Identifying, classifying and grouping	Scientific enquiry type: Pattern seeking
Week 4	Week 5	Week 6
Why are flowers important?	How do bees, butterflies, and other insects help plants?	How do flowering plants and trees change through the seasons?
Observing closely, using simple equipment	Observing closely, using simple equipment	Gathering and recording data to help in answering questions
Scientific enquiry type: Identifying, classifying and grouping	Scientific enquiry type: Observing over time	Scientific enquiry type: Observing over time

Working scientifically vocabulary

- identify
- research
- observe
- pattern
- record
- group
- measure



03 - Learning from Nature

The third key element of a Harmony approach to learning is learning from Nature, which is linked to progression in understanding of Harmony principles. This aspect of learning supports the development of children’s understanding of what it means to think and live more sustainably.

The six lessons in this pack and the wider enquiry they are part of are underpinned by the principle of the Cycle; they build on children’s prior learning in the EYFS, and prepare them for their learning in Years 2 to 6.

The children’s progression in their understanding of the principle of the Cycle through enquiries of learning that help us to think and live more sustainably is shown below.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
ENQUIRY	Children are introduced to opportunities to explore and develop their initial knowledge and understanding about cycles (when leaves fall from trees, when day turns to night, what we notice around us in each season, life cycles)	Which is my favourite wildflower and why?	Why should we reduce, reuse and recycle?	How can we identify native trees in autumn?	What journey does our river take?	What are the cycles of our solar system?	Where do migratory animals travel to and from and why?
PROGRESSION: CONCEPT OF THE CYCLE		Why is it important to have wildflowers?	What can we do to reduce the amount of waste we produce?	What is the life cycle of a tree?	How does the water cycle work and why is this cycle so important?	How many different cycles can you think of in the solar system?	Why are cycles of migration important to the survival of different species?
THINKING SUSTAINABLY		How can we increase the number of wildflowers?	What happens if we don't recycle our packaging and waste?	What role do trees play in maintaining soil health and supporting other living things?	What can we do to keep our rivers healthy?	What are the benefits of solar energy? Are there any problems?	How could we reduce human threats to the cycles of migration?
THINKING SUSTAINABLY VOCABULARY	life cycle season pattern rhythm routine	growth rest cycle seeds habitat	waste recycle reuse reduce consume	abundance decline restore regenerate self-sustain decay	responsibility finite resources solution replicate drought flood	cyclical sustainable pollution fuel harness	agency impact circular economy conserve

Plants

Identify and name a variety of common wild and garden plants

Identify and describe the basic structure of a variety of common flowering plants

Working scientifically:

Gathering and recording data to help in answering questions

Scientific enquiry type:

Research using secondary sources

Identifying, classifying and grouping

Vocabulary relating to plants, working scientifically and thinking sustainably is highlighted within the unit introduction.

A selection of images of flowering plants and trees taken in the school grounds and local area

Nature journals

Copies of the [Spring Flowers](#) wildflower spotter sheets from The Wildlife Trusts (one between two)

Clipboards

Optional: a copy of *Footpath Flowers* by Jon Arno Lawson and Sidney Smith, and *A Little Guide To Wildflowers* by Charlotte Voake

Children requiring additional support may benefit from a scaffolded approach, taking a copy of Resource 1A with them, and marking off the wildflowers as they spot them.

Challenge children to think about what a wildflower needs to grow and thrive and ask: *Do all wildflowers need the same things?*

CLIMATE ACTION PLAN:
Biodiversity and Nature

What are wildflowers and where do we find them?

What do we already know?

Begin the lesson by recalling the children’s prior **learning about Nature** with reference to plants. Share a selection of images of plants and trees taken in the school grounds, within the local area or within other environments that the children may have explored.

Ask the children to imagine that they can ‘step inside’ each image and ask: *Where are we? What plants can we see? What can we hear? What can we smell? How do we feel?*

Recall what the children have already **learned from Nature** through the principle of the Cycle by asking: *Where did these plants come from? Have you ever grown any plants? How did they begin? What happened next?*

While sharing the children’s responses and addressing any misconceptions, take time to assess and consolidate the children’s understanding of the stages that occur in the life cycle of a flowering plant.

What are we learning today?

Move the children’s **learning about Nature** on by sharing the images on Resource 1A and asking the children: *What is a wildflower? Where do we find them?*

Explain that in general, a wildflower is a flowering plant that grows naturally in its environment, without any help from people. Establish that people may sow wildflower seeds in their gardens or in the school grounds, but most wildflowers are native plants that grow in different habitats. These include woods, meadows, wetlands or even verges at the side of the road – anywhere that they have adapted to grow.

Explain that through their learning in this sequence, the children are going to find out why it is important for us to know more about wildflowers, the important roles that they play in Nature and how we can help them to thrive.

Introduce the next step in the learning: the children will look for wildflowers within the school grounds or local area, learn their names and think about why they are growing where they are.

TEACHER TIP:

Either in this lesson, or at another point in the school day, you could share with the children the book *Footpath Flowers* by JonArno Lawson and Sidney Smith, which works well to support this learning. You could highlight the wildflowers that add colour to each picture and where they are growing, before taking the children outdoors to find their own examples. *A Little Guide To Wildflowers* by Charlotte Voake could also be used throughout this learning sequence.

How are we learning today?

Take the children outside to **learn in Nature** in the school grounds or on a suitable local ‘welly walk’. If access to green space is limited, even a dandelion or a daisy growing in the cracks of a playground will still be suitable as a focus for the children’s outdoor learning.

Explain to the children that they are going to be looking for local wildflowers on their walk and taking time to record what they see in their sketchbooks or Nature journals. They could use The Wildlife Trusts’ [Spring Flowers](#) wildflower spotter sheets to identify any flowers they see or you could take photographs to help with identification later.

TEACHER TIP:

Wildflowers offer a wonderful insight into the awe and wonder of plants and their habitats. They are often colourful, particularly at this time of year (April/May) and provide child-level moments to simply stand, stare and admire. Make time to observe and for children to genuinely ‘look’.

Explain that the children will be using their drawings, images and memories to help with identification instead of picking wildflowers.

Draw the children’s attention to where the wildflowers they find are growing (e.g. in sun, shade, cracks in paths, a wild area) and the parts of the plant that they can see. Some plants prefer one place above another; others don’t seem to mind where they grow. Ask the question: *Why do we think the wildflower is growing in this place? Can we see the whole plant or are there parts of the plant that we cannot see?*

TIME TO EXPLAIN:

Allow children time to share their wildflower sketches with others and to describe their plants before moving the children’s **learning about Nature** on by asking them to identify their wildflowers using wildflower guides or books (see list of recommended resources, left).

STEM SENTENCES:

This wildflower is a _____.
It is growing in a _____.

What have we learned today?

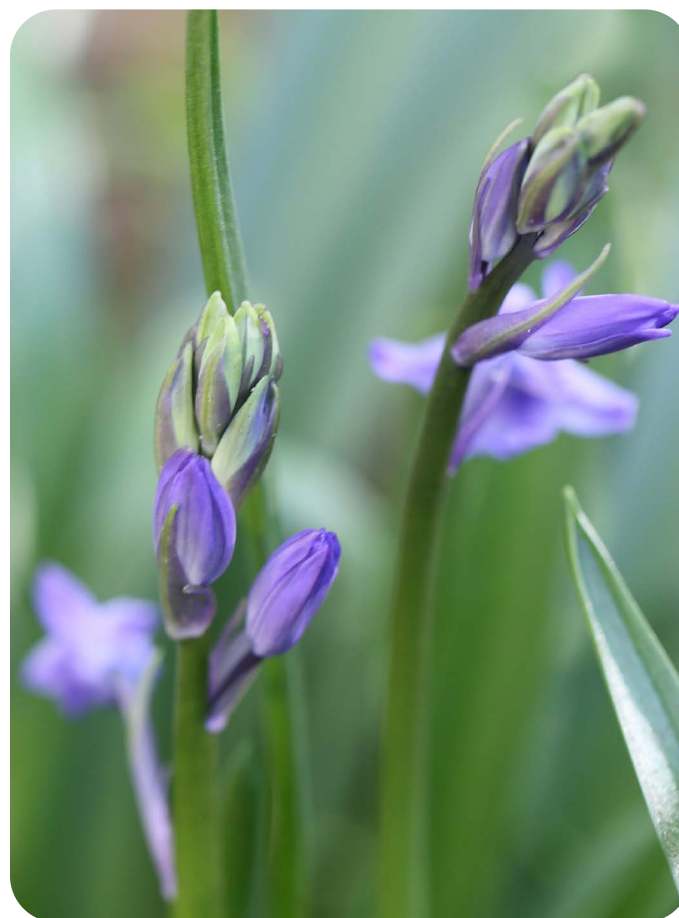
Encourage the children to reflect on their **learning about Nature** and assess their understanding by asking: *Is a wildflower a plant? Where do wildflowers grow? Which wildflowers did we find today? Which parts of each plant did we see?*

Draw out the link between this learning and the **principle of the Cycle** by discussing as a class how the wildflower came to be and what might happen next.

Ask the children: *Do wildflowers start with a seed? How is the seed planted? What do we think will happen during the wildflower's life cycle?*



Resource 1A

**greater stitchwort****buttercup****foxglove****bluebell****daisy****lesser celandine**

Resource 1A



bird's foot trefoil



forget me not



dandelion



hedge nettle

Plants

Identify and describe the basic structure of a variety of common flowering plants, including trees

Working scientifically:

Observing closely, using simple equipment

Scientific enquiry type:

Identifying, classifying and grouping

Vocabulary relating to plants, working scientifically and thinking sustainably is highlighted within the unit introduction.

Copies of Resource 2B (for children requiring additional support)

A selection of native wildflower seeds

Copies of the [Spring Flowers](#) and [Summer Flowers](#) wildflower spotter sheets from The Wildlife Trusts (one between two)

Nature journals

A trowel or hand fork

Chalk and sheets of black sugar paper

Magnifying glasses

Children requiring additional support could use the labels on Resource 2B to support their learning.

Challenge children to explain the role of each part of the plant.

CLIMATE ACTION PLAN:
Biodiversity and Nature

What’s the same and what’s different about plants?

What do we already know?

Begin the lesson by recalling what the children have already **learned about Nature** and wildflowers. Using Resource 1A from the previous lesson, play a game of ‘What’s the same? What’s different?’

Ask the children to think of three things that are the same and three that are different about the wildflowers pictured.

Discuss their ideas as a class and address any misconceptions. Ask them: *Which plants did we see on our wildflower walk?*

What are we learning today?

Move the children’s **learning about Nature** on by asking them: *Where did we find dandelions and daisies on our wildflower walk? How did they get there?*

Establish that wildflowers self-seed and that different wildflowers have different seeds. Look at a selection of native wildflower seeds. Ask the children: *Are they the same colour? Are they the same size? Are they the same shape? Do they feel the same? Which do we think are daisy or dandelion seeds?* You may wish to use the [Explorify – Zoom In, Zoom Out – Dandelions and daisies](#) online resource to explore seeds further.

Ask the children to predict whether different seeds will create completely different plants or whether the plants may have some elements that are the same.

Share the images of daisy and dandelion plants on Resource 2A and ask the children to describe what they can see.

Ask the children: *Which parts of the plant are below the soil? Which parts are above the soil? Do all plants have roots, stems, branches, trunks, leaves and flowers? Is a tree a plant?* You may need to address the common misconception that trees are not plants.

Explain that on the wildflower walk today the children will look more closely at the parts of plants and think about their seeds.

How are we learning today?

Take the children outside to **learn in Nature**. In pairs, they observe wildflowers closely and identify the parts of a range of different plants. Where possible, help the children to recall the names of the wildflowers that were identified in Lesson 1 using their guides.

Draw the children’s attention to examples of different leaves. Ask the questions: *What shapes are the leaves?* (e.g open palm of the hand, single blade, heart-shaped or other) *How are the leaves arranged on the stem?* (e.g opposite, alternate, in groups or something different) *What are the leaf edges like?* (e.g serrated like teeth, smooth, wavy) Ask the children to find examples of three different leaves and to sketch these in their Nature journals.

Explain to the children that, as a class, they will be collecting daisy and dandelion plants to help with the learning today. Remind them that they shouldn’t pick any other wildflowers.

TEACHER TIP:

You will need to dig up a few entire dandelion plants and/or daisy plants and tease the soil away from the roots to expose them a little.

Place the plant specimens you have dug up on black sugar paper and draw the children’s attention to the leaves. Let the children use magnifying glasses to look at them closely. Draw their attention to the flowers, and discuss what can they see. Using chalk, the children label the different parts of the plant. Ask the children: *Do all plants have the same parts?*

TIME TO EXPLAIN:

Children share their labelled diagrams and their findings in their Nature journals.

STEM SENTENCE:

This part of the plant is the _____.

What have we learned today?

Encourage the children to reflect on their **learning about Nature** and assess their understanding by asking: *Do all plants, including trees, have the same parts? Do all plants start from seeds?*

Draw out the **learning from Nature** by discussing with the children how the different parts of a wildflower plant play a role in keeping the plant healthy throughout its life cycle.

TEACHER TIP:

In PSHE, children may create their own wildflower space in the school grounds or the local area, using their science knowledge. Explain that the best time to sow wildflower seeds is in autumn, in tune with the natural cycle of regeneration, when Nature will water them for us. In late spring, they may need our help with watering.

The children can harvest the seeds from this area as the wildflowers begin to die back and take these seeds into their science learning in Year 2. This area can also be used to support the learning of the next Year 1 cohort the following year if access to wildflowers on your school site is limited.



Resource 2A



Resource 2B

roots

leaf

stem

petal

flower

bud

roots

leaf

stem

petal

flower

bud

Plants
Identify and describe the basic structure of a variety of common flowering plants, including trees

Working scientifically:
Using their observations and ideas to suggest answers to questions

Scientific enquiry type:
Pattern seeking

Vocabulary relating to plants, working scientifically and thinking sustainably is highlighted within the unit introduction.

Daisy and dandelion plants (with roots). These could be collected with the children during the lesson

Magnifying glasses

A trowel or hand fork

Scissors

Black sugar paper

Use concrete resources to support children’s understanding of the role of the roots and the stem. This could be done on a large scale outdoors using skipping ropes to create a model of the roots and stem. Children can show how water is absorbed from the soil and then transported up the stem using movement and water containers.

Establish clear roles for each individual in discussions and group work, enabling some to articulate their learning to the wider group and others to provide models and demonstrations.

CLIMATE ACTION PLAN:
Biodiversity and Nature

How do plants get water?

What do we already know?

Begin the lesson by recalling the children’s prior **learning about Nature** with reference to plants.

Share the images on Resource 3A of a plant and a watering can. In pairs, the children speak like an expert for one minute, describing what they see.

Invite the children to share their thoughts with the class and address any misconceptions.

Ask the children: *Do all plants need water? What would happen if they didn’t have water? Do plants need anything else to grow and thrive?*

What are we learning today?

Move the children’s **learning about Nature** on by asking them: *What important role do roots and stems play in helping wildflowers to grow and thrive?*

Explain to the children that they will be looking very closely at the roots and stems of the daisy and dandelion plants to see if they can find some further clues about how these two important parts of the plant help the plant to absorb water.

Remind the children that the roots anchor or hold the plant in the soil. Explain that roots also absorb water for the plants.

Move on to explain that the stem holds the leaves and flowers above the ground in the best position to get maximum light. The stem also contains the transport system of the plant. Water is transported from the roots to the leaves and other parts of the plant.

TEACHER TIP: At this point in the lesson, it may be a good time to address the common misconception that a plant’s roots also absorb food for the plant.

How are we learning today?

Take the children outside to **learn in Nature**.

As a class, collect a flowering daisy or dandelion plant (with its roots intact) and place it on black sugar paper. Encourage the children to look closely at the different parts of the plant using their magnifying glasses. *What do they notice?*

Draw the children’s attention to the stems and encourage them to identify similarities and differences between them. Ask them: *Is the stem round or square? Is the stem hairy or smooth?* Remind the children about the wildflowers that they have found and identified so far. Ask them to find examples of two different stems and to sketch these in their Nature journals.

Using scissors, demonstrate cutting through the stems of the daisy and dandelion plants. Encourage the children to look closely and to observe the different tubes that supply the plants with water.

Draw the children’s attention to the tiny hairs on the plant’s roots. Plant roots have tiny hairs on them so they can absorb as much water as possible.

TIME TO EXPLAIN:

Allow the children time to share their explanations of how water gets from the soil to the plant by creating and using a large outdoor model of roots and stems and water containers. (See ‘Adapt the learning’).

STEM SENTENCES:

The roots absorb _____ (water) from the soil. The stem transports _____ (water) to the rest of the plant.

What have we learned today?

Encourage the children to reflect on their **learning about Nature**, and assess their understanding, by asking them to answer the learning question for this lesson: *How do the daisy and the dandelion plants get water? Do trees get water in the same way? What did we see inside the stems of the dandelion and the daisy? Does a tree have a stem? What do we call it?*

Draw out the children's **learning from Nature** by discussing how wildflower plants take the water that they need to survive and that they also create the right conditions for other living things to thrive (e.g. plants provide food and a habitat for other living

things; they maintain the balance of oxygen and carbon dioxide in the air; in some places, they help maintain moisture levels in the air for other plants). Explain that they will be finding out more about the important role that they play in the next lesson.

Ask the children: *What can we learn from wildflowers about taking only what we need and playing a role in supporting others?*

Resource 3A



Plants

Identify and name a variety of common wild and garden plants

Identify and describe the basic structure of a variety of common flowering plants, including trees

Working scientifically:

Observing closely, using simple equipment; Identifying and classifying

Scientific enquiry type:

Identifying, classifying and grouping

Vocabulary relating to plants, working scientifically and thinking sustainably is highlighted within the unit introduction.

Copies of Resource 4A (one per pair)

Clipboards

Copies of the [Spring Flowers](#) and [Summer Flowers](#) wildflower spotter sheets from The Wildlife Trust (one between two)

Nature journals

Children requiring additional support may benefit from an opportunity to learn the names of the main pollinators by playing a matching game prior to the lesson the lesson.

Challenge children to consider if all insects are pollinators.

CLIMATE ACTION PLAN:
Biodiversity and Nature

Why are flowers important?

What do we already know?

Begin the lesson by recalling the children’s prior **learning about Nature** with reference to pollinators. Share images of a bumblebee, a hoverfly, a wasp, a moth, a butterfly and a solitary bee (see Resource 4A). Ask the children: *What can you tell me about these creatures?*

Share an image of a sunflower or another flowering plant that the children may have grown or seen growing in the school grounds or as part of their learning in the EYFS (you could share the image of the dandelion or the daisy on Resource 2A).

Ask them: *What can you tell me about these flowering plants? Have we ever seen the insects in our pictures near our flowers? Why?*

Share children’s ideas and address any misconceptions.

What are we learning today?

Move the children’s **learning about Nature** on by asking: *Why do insects need flowers?* Explain that plants produce flowers to attract insects and that they also produce a sugary food called nectar– a type of energy food that enables insects to do their many important jobs.

Point out that this is why it’s important that we don’t pick the flowers that we find, but leave them on the plant as a source of food for the many insects that need them.

Flowers that attract insects are brightly coloured, may have patterns to guide the insect in and may be scented.

Introduce the word ‘pollinator’ at this point in the lesson and simply explain that this is the word we use to describe an insect that travels from flower to flower to feed.

Explain to the children that they will be going on a Pollinator Watch in the school grounds, to observe some of these flowers and insects at work.

How are we learning today?

Take the children outside to **learn in Nature** and to carry out their Pollinator Watch. This can take place in the school grounds, if there is a suitable wildflower area, or in a local wildflower space. This may simply be a safe verge that has been restored to a natural state. Find a suitable place to stand and stare quietly in pairs or small groups.

Draw the children’s attention to examples of different flowers. Ask the questions: *What colour are the flowers? What shape are the flowers? (e.g. bell, star, trumpet) How many petals are there and are all the petals the same shape?*

Ask the children to look for examples of plants that have several flowers gathered at the top of the stem, single flowers at the top of the stem or flowers all the way up the stem. Ask the children: *Do all the plants have the same number of flowers? Are all the flowers in the same places on the plants?*

The children find examples of three different flowers to sketch in their Nature journals.

In pairs, the children use the guide on Resource 4A to identify as many pollinators as they can on or around the flowers. You may want to discuss with the children that they might see pollinators, particularly bees, butterflies and beetles, that look different to the ones pictured on the resource (the butterfly pictured is a small tortoiseshell, the bee is a buff-tailed bumblebee and the beetle is a rose chafer beetle).

Ask: *Why are the insects/pollinators attracted to the flowers?* Encourage them to think about colour, petals, pattern and smell. *Which insects/pollinators can we see? What are they looking for?*

TIME TO EXPLAIN:
Give the children time to name the pollinators that they can see and to talk about what they are doing.

STEM SENTENCES:
A _____ is a pollinator.
_____ look for nectar in the flower.

Extend the children’s learning by asking them: *Could the insects survive without the flowers?*

TEACHER TIP:
The Royal Botanic Gardens Kew's [‘Why wildflowers matter’](#) webpage provides useful further reading for teachers.

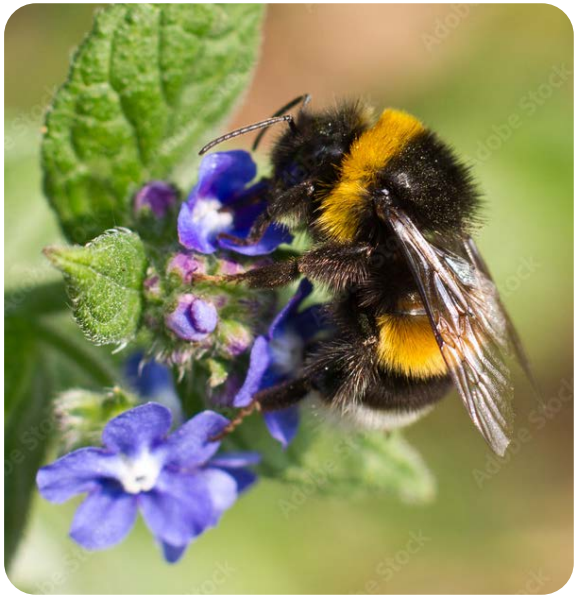
What have we learned today?

Encourage the children to reflect on their **learning about Nature** and assess their understanding by asking: *Why are flowers important? Why are there different types of flowers? Are all insects attracted to the same flowers?*

Draw out the **learning from Nature** and the link between this learning and the **principle of the Cycle** by discussing with the children how the different colours, shapes and patterns of flowers contribute to the health of the life cycles of many different species.

Reflect on why it is important to have a diversity of wildflowers in the local area and ask the children: *How will our own newly planted wildflower space make a difference to our local insects/pollinators?*

How many pollinators can you spot?



☐ bee



☐ hoverfly



☐ wasp



☐ moth



☐ butterfly



☐ beetle

Other pollinators that we have spotted:

Plants

Identify and name a variety of common wild and garden plants

Identify and describe the basic structure of a variety of common flowering plants, including trees

Working scientifically:

Observing closely, using simple equipment

Scientific enquiry type:

Observing over time

Vocabulary relating to plants, working scientifically and thinking sustainably is highlighted within the unit introduction.

Whiteboards and pens

Copies of the [Spring Flowers](#) and [Summer Flowers](#) wildflower spotter sheets from The Wildlife Trust (one between two)

Chalk

White pipe cleaners (one per child)

Saucers of ground chalk in four different colours (one set per group)

Children requiring additional support may need to consolidate their understanding of ‘pollen’ and ‘nectar’ prior to the task to avoid any misconceptions

Challenge children to consider whether all pollinators are insects. Ask: *Could a bird carry pollen from one flower to another? Could a mammal carry pollen from one flower to another?*

CLIMATE ACTION PLAN:
Biodiversity and Nature

How do bees, butterflies and other insects help plants?

What do we already know?

Begin the lesson by recalling the children’s prior **learning about Nature** with reference to pollinators.

Share the word ‘pollinator’ and ask the children to record everything that they know about this word on their individual whiteboards using words or drawings. Challenge them to record at least five ideas.

If needed, you may wish to prompt their responses by asking: *Which pollinators did we see in action during our Pollinator Watch? What were they doing?*

Share ideas as a class and address any misconceptions.

What are we learning today?

Move the children’s **learning about Nature** on by explaining that the children are going to explore another reason why pollinators visit flowers.

Explain that as well as looking for food from the flowers that they visit, pollinators also transfer a fine powder called pollen from one flower to another. This helps the plant to produce seeds.

Recap what the children have already **learned from Nature** through the **principle of the Cycle** and their understanding of seeds so far. Encourage them to reflect on their experience of growing a flowering plant in the EYFS. Ask: *Where did the seed come from? Was the plant able to create further seeds? What will these seeds become?*

How are we learning today?

Take the children outside to **learn in Nature**. Allow them time to observe different plants in detail and to discuss their observations about flowers.

Look at the flowers the children have found and draw their attention to the wildflower spotter sheets they have been using throughout this sequence. Remind them that flowers are produced to spread pollen to other flowers so that those other flowers can make seeds.

Encourage the children to choose a flower to examine closely. Ask them: *Can you identify the wildflower? If you look very closely, can you see the pollen?*

Explain that pollen is spread between flowers by the insects that visit them to collect nectar. Flowers that need insects to spread pollen like this to make seeds have pollen that is quite sticky so it sticks to the insects. Explain that the children will create a model today to help them understand how pollen is transferred from one flower to another by insects.

To do this, provide each child with a white pipe cleaner and show them how to create a simple ‘insect’ on their finger by wrapping the pipe cleaner around the finger once and creating two flat ‘legs’. This will represent the insect’s body.

For each small group of four to five children, draw the outline of a large flower on the ground in chalk, including a flower centre and large petals. Place four saucers of ground chalk around the flower, ensuring each saucer has different coloured chalk

in it. Explain that the saucers represent other flowers and the chalk represents their pollen. Demonstrate how the pipe cleaner ‘insect’ may fly to one of the saucer flowers to find nectar and land. Ask the children to look closely at the ‘legs’. *What can we see?* Ask the children: *What will happen when our insect flies to another flower? What will happen to our central flower?*

TIME TO EXPLAIN:

Allow the children time to experiment and to ‘fly’ in insect pairs between the group of flowers, talking about what this model represents.

STEM SENTENCES:

The insect is looking for _____ (nectar) in the flower.
_____ (pollen) in the flower sticks to the insect.
The insect drinks the _____ (nectar) and carries _____ (pollen) to another flower.

TEACHER TIP:

Since the 1930s, we have lost around 97% of our native wildflower meadows, which is catastrophic for pollinators and for growing food. However, there are many local projects working to restore and protect our wildflower meadows. If you are able to make links to local organisations, this could work well to support the learning.

What have we learned today?

Encourage the children to reflect on their **learning about Nature** and assess their understanding by asking: *Which part of the plant attracts insects? How do flowers attract insects? Where would you find pollen on a plant? Why is pollen important? What happens when pollinators move from one flower to another?*

Draw out the **learning from Nature** and the link between this learning and the **principle of the Cycle** by discussing with the children the importance of flowers and their link with the life cycle of our wildflowers. Ask the children: *What would happen if there were fewer flowers?* (e.g. plants would make fewer seeds so there would be fewer new plants; pollinators would have less food)



Plants

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, including trees

Seasonal changes

Observe changes across the four seasons; observe and describe weather associated with the seasons and how day length varies.

Working scientifically:

Gathering and recording data to help in answering questions

Scientific enquiry type:

Observing over time

Vocabulary relating to plants, working scientifically and thinking sustainably is highlighted within the unit introduction.

Individual whiteboards and pens

Copies of the [Woodland Trust's Leaf iDial tree spotter tool](#) (one per pair)

Optional: a copy of *Du Iz Tak?* by Carson Ellis

Share stories and images that capture the main elements of each of the seasons (weather, temperature, the clothing we wear etc) prior to the lesson so that children who need further support to focus on the similarities and differences of wildflowers and trees through the seasons are able to focus specifically on this.

Arrange children in mixed-ability groups and assign roles so that all can contribute confidently.

CLIMATE ACTION PLAN:
Biodiversity and Nature

How do flowering plants and trees change through the seasons?

What do we already know?

Begin the lesson by recalling the children's prior **learning about Nature** and the structure of a variety of common plants. Using their individual whiteboards, ask the children to draw a flowering plant and a tree and to label all the parts that they can remember.

Ask the children : *What's the same? What's different? Do plants and trees look the same throughout the year?*

Encourage the children to share their understanding and address any misconceptions.

What are we learning today?

Move the children's **learning about Nature** on by exploring the difference between deciduous and evergreen trees.

Ask the children: *Do all trees look the same all year round? How do some trees look different?* Draw out in discussion the fact that some trees lose their leaves in autumn and grow new leaves in spring. We call these deciduous trees. Others keep their leaves (or other leaf-like structures) all year round. We call these evergreen trees.

As a class, watch the [BBC Class clip](#) 'Are plants the same all year round?' to consolidate this new learning and discuss what they have understood from it. Display the cards on Resource 6A and explain that one card has an image of a deciduous tree (oak) and the other has an image of an evergreen tree (holly). Establish which is which.

Use these cards to play a game. Read out the following statements and invite the children to work in pairs to decide which of the cards they should point to, to show which type of tree the statement describes.

My leaves turn brown in the autumn.
My leaves stay green all year round.
My leaves fall to the ground in autumn.
My branches are bare in the winter.
I replace my leaves each spring.

Explain that in this lesson, the children will explore the similarities and differences between trees through the seasons.

How are we learning today?

A local welly walk or a walk in the school grounds allows children to **learn in Nature**. If this is part of your regular practice, encourage the children to make links between what they have seen on their welly walks during the autumn, winter and spring and on their walk today. This can help children to recognise changes in the natural world at different times of year through their own experiences.

A class Nature display or Nature table can help to reinforce this understanding.

Remind the children that it is nearly summer. Encourage them to make observations about the weather at this time of year by asking: *What is the weather like today? How has it felt to be outdoors at other times of the year?* As a class, you could visit the class weather station, if you have one, to collect data about the weather and record this in a class weather journal.

TEACHER TIP:

A simple class weather station could include a thermometer, a DIY [rain gauge](#) made from a plastic drinks bottle and a weatherproof streamer or flag – or even a DIY [wind vane](#). Once this is set up, you can visit it as part of your regular outside learning practice so children can build up measurements and observations about the weather through the seasons. This data can be referred to in future learning in geography and in science.

Ask: *What do the trees look like at this time of year? Do you think the trees you can see are evergreen or deciduous? Why is it difficult to tell the difference at this time of year? What can you remember about how the trees looked on our autumn, winter and spring walks?*

Discuss which parts of trees change through the seasons (e.g. the leaves of deciduous trees) and which parts of all trees look the same (e.g. trunk, roots, branches).

Take time to consolidate the learning about the parts of a plant within this sequence so far using questions such as: *What is the name of the part of a plant that holds (anchors) it in the soil? The part that is usually tall and straight? That part that pollinators visit? That transports water? That is green?*

Make connections as you walk before stopping next to a tree or group of trees. In pairs, the children use the [Woodland Trust's Leaf iDial tree spotter tool](#) to identify one or more trees by looking at their leaves. Discuss what they have found as a class and establish which are deciduous (e.g. field maple, oak, rowan, birch, horse chestnut, sycamore) and which are evergreen (e.g. holly).

TIME TO EXPLAIN:
In pairs or small groups, the children take on the role of tree experts and share their knowledge about the trees that they are now familiar with.

STEM SENTENCES:
This tree is a _____.
A _____ is _____ (evergreen/deciduous)
In the summer I notice _____.
In the autumn _____.
In the winter _____.
In the spring _____.

If the children have noticed blossom on any of the trees on their walk, draw their attention to the role that these flowers play in the life cycle of the tree. Encourage them to predict whether pollinators will visit these flowers and why. Support them in making the link between the role that blossom plays in making seeds that continue the tree's life cycle, and the role that wildflowers play in making seeds that continue the flowering plant's life cycle.

Extend the children's thinking and link their learning to the wider enquiry by asking: *Do wildflowers look the same all year round? When do we see wildflowers? What happens to them in autumn and winter? How is this the same or different to trees?*

TEACHER TIP:
Either in this lesson, or at another point in the school day, you could share with the children the book *Du Iz Tak?* by Carson Ellis, which works well to support this learning. It provides a beautiful insight into the life cycle of a flowering plant through the eyes of an insect through the seasons. Ask the children to think about how this story would look if the insects focused on a tree.

What have we learned from this enquiry?

Encourage the children to reflect on their **learning about Nature** and assess their understanding by asking: *Do trees look the same throughout the year? What happens to the leaves of a deciduous tree? Do wildflowers look the same throughout the year?*

Draw out the learning linked to the **principle of the Cycle** by discussing as a class the changes we see through the seasons. Encourage the children to draw on their learning about the parts of plants to talk about the changes to trees and wildflowers that we see throughout the year.

To finish the learning within this sequence, ask the children to reflect on their learning in response to the enquiry question: *Which is your favourite wildflower and why?*

You could, for example, encourage them to think about the colours of wildflowers they have encountered and how this helps the flower to attract pollinators; to reflect on their exploration of the structure of daisy and dandelion plants and what they found interesting; or think about the number and location of flowers on their favourite wildflower plant.





evergreen



deciduous

Additional image credits

Resource 1A
Hedge nettle by Ivar Leidus © 2013 Ivar Leidus, licensed under [CC BY-SA 3.0](https://creativecommons.org/licenses/by-sa/3.0/)
(creativecommons.org/licenses/by-sa/3.0/)

Resource 4A
Rose chafer beetle by Chrumps © 2007 Chrumps, licensed under [CC BY-SA 3.0](https://creativecommons.org/licenses/by-sa/3.0/)
(creativecommons.org/licenses/by-sa/3.0/)