

**DISCOVER  
WITH  
PLYMOUTH  
UNIVERSITY**



# Woodland Explorers Pack



# Introduction

This Woodland Explorers Pack contains activities to help you discover local woodland wildlife and get up close to nature, and is intended for use by families, youth groups and anyone looking to run a wildlife or nature club for children.

Woodland Explorers was a monthly club led by the Plymouth Woodland Project at Plymbridge Woods in Plymouth, in partnership with the National Trust from 2014-2015. Each month we had a different wildlife theme, and combined wildlife ID, science and craft activities to teach families about different aspects of the woodland ecosystem. A selection of our activities has been included in this pack.

The Plymouth Woodland Project was a two-year Heritage Lottery funded project run by the School of Biological Sciences at Plymouth University. The project aimed to engage people in studying woodland wildlife by teaching plant and animal identification skills and involving them in citizen science. Further information can be found [here](#).

## Share your woodland exploring experiences!

We would love to hear about the woodland adventures you have. You can tell us about the things you see and post pictures on our [Facebook page](#). If you find some interesting wildlife and are not sure what it is, you can post a photo and we will do our best to identify it for you.

## Plymouth's woods

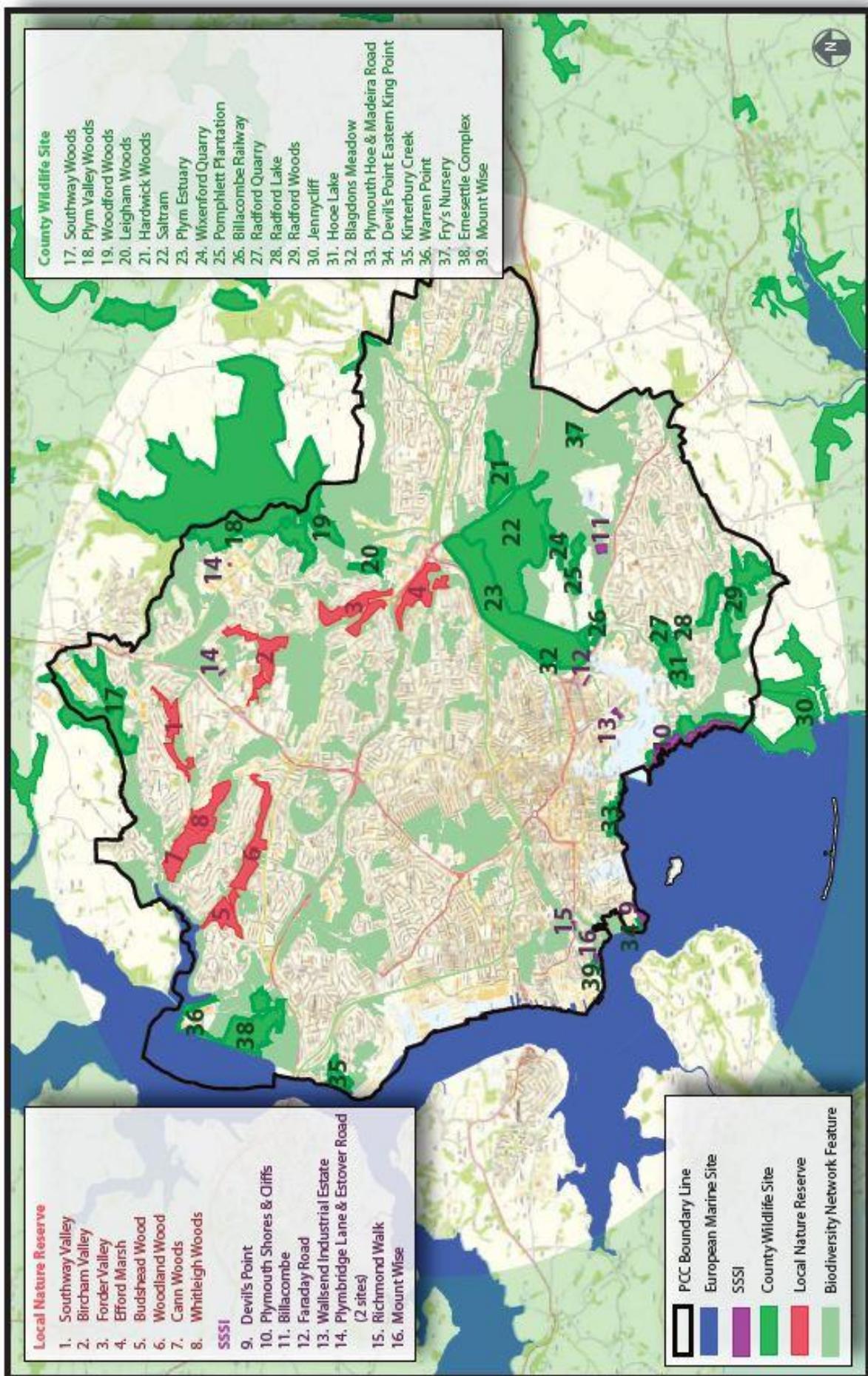
Plymouth is the second greenest city in the UK, with over 20% of the city covered in woodland. As well as ten local nature reserves spread across the city there are numerous county wildlife sites and parks throughout, which all provide a fantastic resource for discovering nature, wildlife and outdoor play. The map overleaf shows the locations and you can find out more [here](#).

# Sites protected for Nature Conservation (annotated)

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Scale 1:5000



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# Woodland mini-beasts

The woods are full of exciting mini-beasts to search for. This session is all about the mini-beasts that inhabit the forest floor.

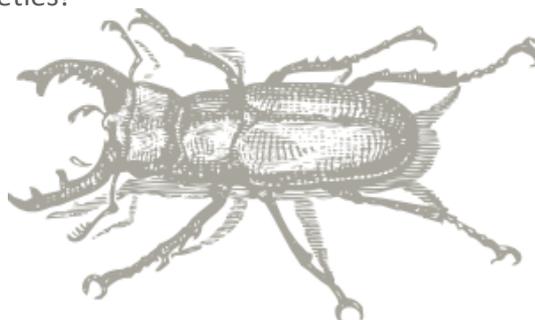


## Small things that make a big difference...

- Many mini-beasts like earthworms, woodlice and millipedes play a very important role in decomposing dead trees, dead wood and leaves. By breaking down dead plants and turning them into soil, they recycling all the goodness (nutrients) back into the ground, helping new plants to grow.
- Mini-beasts provide essential food for larger woodland creatures. Birds, badgers, hedgehogs, shrews and wood mice all depend on food from woodland mini-beasts.

## Did you know?

Mini-beasts are called 'invertebrates'. This means they are animals without a backbone or skeleton inside their body. Invertebrates make up more than 97% of all the animal life of earth! There are more beetles than any other type of mini-beast, and about a quarter of all the animals of earth are beetles!



## Mini-beast trivia:



### Slugs & Snails

Snails and slugs are 'molluscs' (as are limpets, mussels and octopus!) They belong to a group of molluscs known as 'gastropods' which means 'stomach foot'! Their mouths are underneath their bodies, so they eat as they slide along. Most are herbivores and eat plants, but some are omnivores, meaning they also eat other creatures!

This is a leopard slug. It's an omnivore, and as well as eating dead plants it also eats other slugs! It is a large grey-brown slug with black spots.



### Insects



Insects are mini-beasts that have six legs, like beetles, shield bugs, flies, bees, ants, wasps, butterflies, earwigs and grasshoppers. Insects usually have wings, but they may be very small and may not be used for flying. Look out for ground beetles (left) under dead wood. You might also find earwigs (right)



### Arachnids

Mini-beasts with eight legs are known as arachnids. As well as spiders, eight-legged creatures include harvestmen, scorpions, mites and ticks. You are likely to see spiders and harvestmen when you are bug hunting.



Spiders (left) have two body parts in the middle, whereas harvestmen (right) only have one body part in the middle!

Though both have eight legs, you are quite likely to see a harvestman with fewer legs! As a defence mechanism, they can detach a leg if a spider or another predator catches them!

### Centipedes & millipedes



#### What is the difference?

People often think the difference is that centipedes (left) have 100 legs and millipedes (right) have a thousand legs! Actually centipedes can have between 30-350 legs, whereas millipedes can have anything from 40-750 legs! Centipedes are carnivores and have poison claws beneath their heads to stun their prey (though the ones in the UK are harmless to us). Millipedes are herbivores and eat plants.



## Activity 1: Finding and identifying mini-beasts

### What you need:

- A mini-beast guide, e.g. the OPAL Bugs Count guide which you can download for free from the [OPAL website](#)
- A small pot to put your mini-beasts in whilst you examine them closely
- A magnifying glass



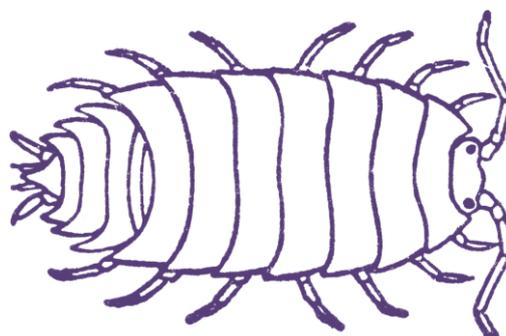
### Top tips:

- Search under old rotting logs, or in old rotten tree stumps. Gently peel back bark on logs or dead trees. Wood that is crumbly or soft is likely to be home to more mini-beasts.
- Avoid areas that are very muddy. Mini-beasts like damp places, but prefer loose soil that is not waterlogged so they can move and breathe easily.
- Only put mini-beasts that have legs into your collection pot. This stops the pots getting slimy and prevents other mini-beasts getting stuck together!

Take care to look after the mini-beasts and their habitat. If you move something make sure you put it back where you found it. Be careful not to squash mini-beasts when you pick them up, and always return them to their habitat afterwards.

**Be safe!** The woods are generally safe, but reading these tips will help ensure safe mini-beast hunting.

- Always wash hands after touching soil and mini-beasts
- Don't try to lift large or heavy pieces of wood
- If you are turning over logs or stones, take care not to roll them onto fingers or toes!
- Most mini-beasts are safe to pick up and handle. Large spiders and beetles can give a nip, so use your pot to collect them rather than your hands.
- Avoid going into areas with very dense vegetation to avoid scratches, stings and ticks.
- If you disturb bees or wasps, calmly walk away and find a new area to continue your mini-beast hunt.





Keep a tally of all the mini-beasts you find using this tally sheet:

Number of legs	Mini-beast name	Picture	Tally IIII II
0	Slug	 © NHM	
0	Snail	 © NHM	
0	Earthworm	 © Buglife	
6	Beetle	 © NHM	
6	Earwigs	 © NHM	
8	Spiders & Harvestman	 © Buglife	
14	Woodlice	 © Buglife	
More than 14	Centipedes	 © Buglife	
More than 14	Millipedes	 © Buglife	
Hard to see	Insect larvae or grubs	 © NHM	
Hard to see	Landhoppers	Hint: you will see them jumping!	
	Other bugs		



## Activity 2: Build a bug

Your challenge is to re-create a beetle, spider, harvestman, centipede or millipede, making sure it has the correct number of legs and body segments!

### Materials:

- Paper/plastic cups
- Cut-out cardboard discs just wide enough to cover the tops of the cups (templates provided in the [pack resource section](#))
- Drinking straws
- Tape
- Pictures of mini-beast faces (templates provided in the [pack resource section](#))
- Child-safe scissors for cutting out disks and mini-beast faces

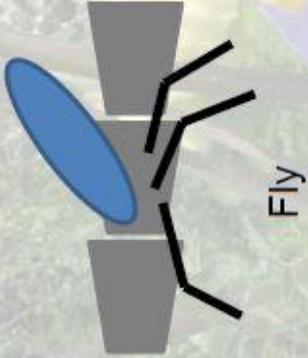
### Instructions:

Cups are used to make up the body segments. The cardboard discs are taped to the tops of the cups so that cups can be taped together end-to-end. Straws can be taped to the cups to form the legs, and faces stuck on the front end.

A sheet with diagrams showing how to build different mini-beasts is provided overleaf.



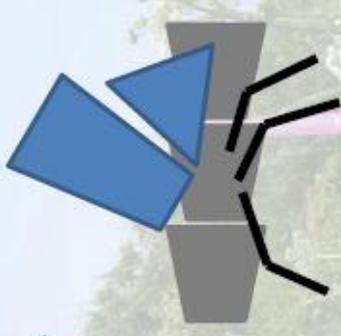
# Build a Minibeast



Fly



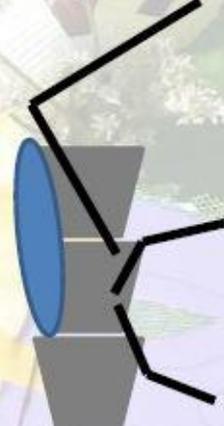
Bee or Wasp



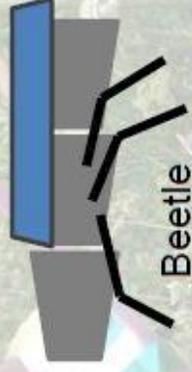
Butterfly or Moth



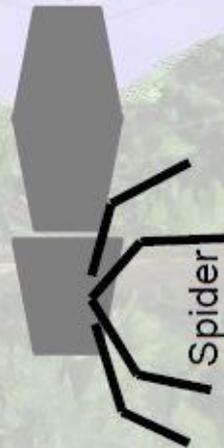
Ant



Grasshopper or Cricket



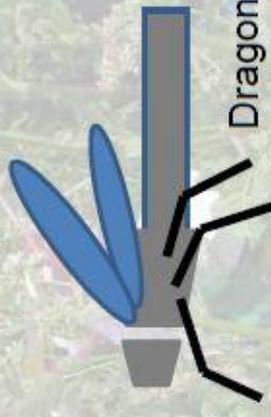
Beetle



Spider



Harvestman



Dragonfly



Centipede



Millipede





## Activity 3: Help science by taking part in these studies!

You can help with scientific research at the same time as mini-beast hunting. Take part in the OPAL Bugs Count Survey by searching for mini-beasts for 15 minutes on soft ground, then 15 minutes on plants. Record what you find and then send your results to OPAL. You can download survey instructions and a pack [here](#).



### Help with research by keeping an eye out for these creatures:

#### 1. Leopard slug:

This large (up to 16cm long) spotty slug actually eats other slugs, as well as rotting vegetation! Help with national research into this slug's whereabouts, by sending sightings to **OPAL**



#### 2. Devil's coach horse beetle:



© APHOTOFAUNA

This large black rove beetle (2.5cm long) is well adapted for running across the forest floor and catching other mini-beasts for its dinner. It rears up its abdomen when threatened, and can produce a strong smell to scare off predators. Help scientists find out how common it is by sending sightings to **OPAL**

#### 3. Oil beetles:

These beautiful beetles are becoming increasingly rare. Help with Buglife's research by identifying oil beetles and sending your records. For an identification guide and details click [here](#)



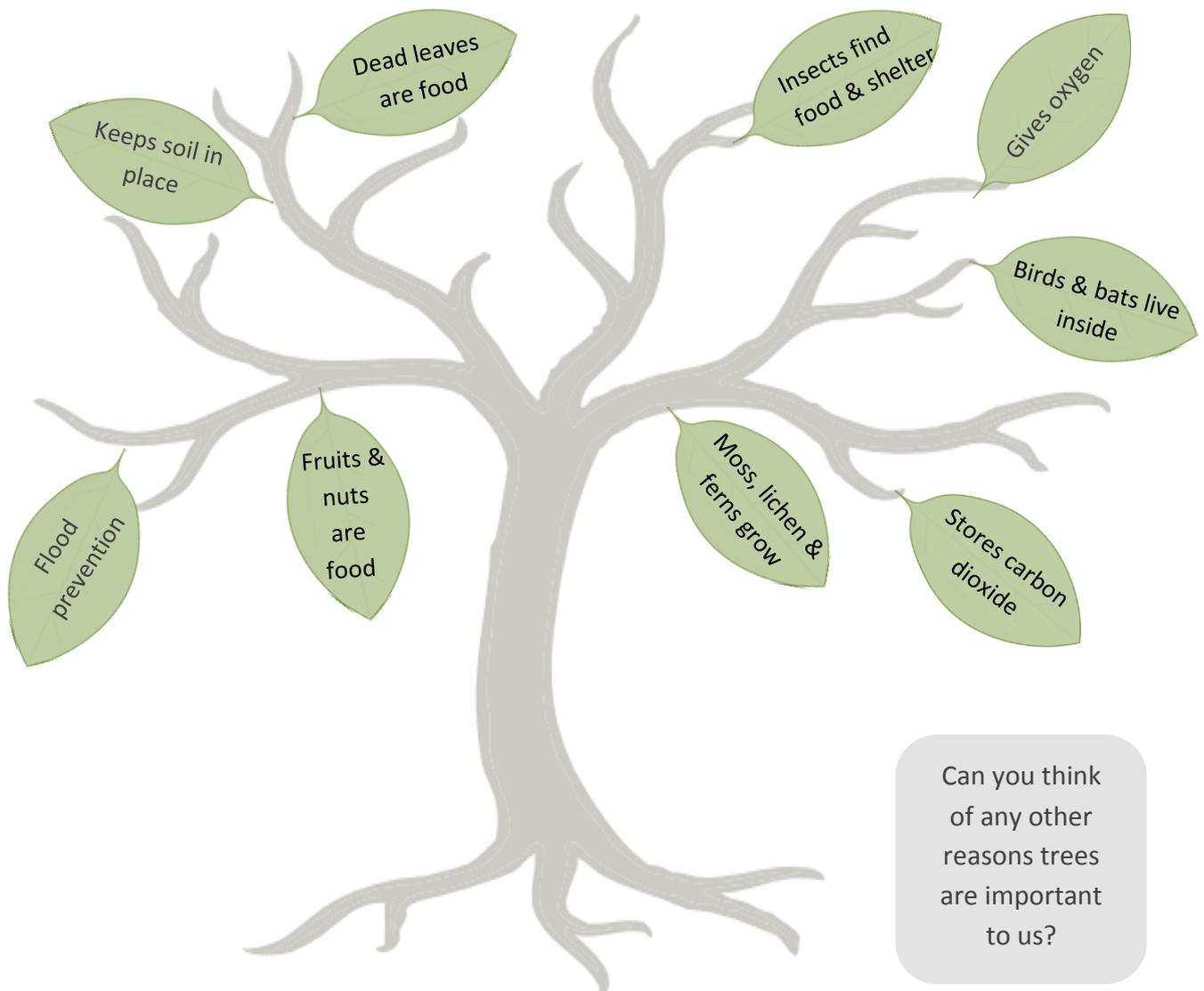
© APHOTOFAUNA



# Tree Explorers

## Trees do many great things that help humans and wildlife:

1. They give us oxygen which we need to breathe, and take in carbon dioxide gas.
2. They help prevent floods, by taking water from the soil. Their roots also hold the soil in place and stop it washing into rivers and causing flooding and pollution.
3. Trees produce seeds, inside fruits or nuts. These provide food for many animals, including people.
4. Many plants, fungi and animals live in trees. A single mature oak tree may be home to over 200 different species of insect and over 300 types of lichen!



## Activity 1: Tree identification



### Tree leaf hunt:

There are many different tree species. You can download this free [tree ID guide](#) from OPAL, and see how many species you can find.



### Make a tree leaf poster:

Why not collect an example of each different tree leaf you find, and stick them to a piece of card and label them with their species names. You could attach pieces of double-sided sticky tape to card, to allow families to create their own tree ID posters. Back at home, these can be covered with a sheet of paper and placed under heavy books for 2 weeks to press and preserve them.

### Winter twigs:

Even in winter you can still enjoy identifying trees. Use [this fun resource](#) from the Nature Detectives to create your own winter twig ID dial, and see if you can identify some common trees from examining the colour and shape of their buds and bark.

### Ancient Trees

The world's oldest living tree is a bristlecone pine in North America, thought to be around 5000 years old. This makes it older than most of written history.

The oldest tree in Britain is a yew tree in Scotland, thought to be nearly 3000 years old. Legend says that the ancient roman politician, Pontius Pilate, once sat beneath the tree that still grows today.





## Activity 2: Working out a tree's age

Many of our trees live for around 200-400 years old. Oak trees can live to around 1000 years old. You can estimate the age of trees that you find by using your hands.

Place a hand flat against the tree trunk with your fingers and thumb out-stretched. Each hand span like this is equal to about five years of growth. See how many hand spans it takes to go all the way around the tree. You can either count up in fives as you go around, or count the number of hand-spans and then multiply that number by five. This will give you a rough idea of how old the tree is.

How old is the oldest tree you can find? Check out Plantlife's **Lower Plant Challenge** and **Two Trees Challenge** for more fun activities to help you investigate tree age.

## Activity 3: Tree detectives

As trees become older, they become full of life. Find an old tree and see if you can find different types of lichens, mosses and ferns growing on them. Use the tree detectives sheet overleaf to record what you find.

## Activity 4: Create a boggart!

### What you need:

- Air-drying clay
- Natural materials found on the forest floor

Boggarts are mythical creatures and guardians of the forests! Some people see them as tree spirits, and faces that reveal the tree's true character.

Create a boggart for a tree in the woods. Use natural materials like lichen, moss, nuts and seeds to create the features on the face. Take care to collect materials without damaging living plants.

You can take your faces home, or leave them on the trees. If leaving them, ensure the materials are all natural so they won't impact on the environment.





# Tree Detectives



This is a \_\_\_\_\_ tree. Its leaves look like this:

*Use this box to draw the shape of the leaf.*

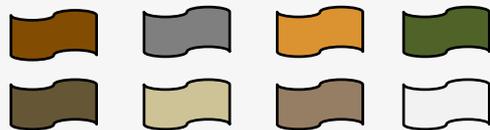
What is the tree's bark like?

Rough or smooth

Flat or bumpy

Hard or soft

What colours are on the bark?

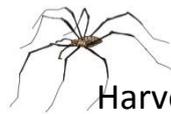


How old is your tree?

See how many hand spans it takes to go all the way around the tree's middle. Multiply this number by 5 to give you an estimate of the tree's age.

This tree is \_\_\_\_\_ years old.

Can you find these creatures under the bark?



Harvestmen



Centipede



Woodlouse



Millipede

What can you see growing on the tree?



Fern



Lichen



Fungi



Moss



Ivy

Are there signs of other animal homes?



Bird's nests

Holes for owls or bats



Winter

# Discovering birds



## Activity 1: Bird Walk

Take an early morning walk through the woods, and listen out for bird songs and calls. Take a pair of binoculars with you and listen out for birds close by, and see if you can spot them. Use a bird ID guide such [as this free Nature Detectives resource](#). You can also visit the [RSPB website](#) with help on identifying birds from their songs.



During your walk why not collect materials to create a bird's nest (see activity 3).

**RSPB Garden Birdwatch:** In January, you can take part in the RSPB birdwatch in your garden or local green space. Observe birds for one hour, record what you see and send your results to the RSPB, and you will help with national research and bird conservation. Find out more [here](#).

## Activity 2: Make a bird feeder

### What you need:

- Pine cones
- Peanut butter
- Plastic knives or spatulas
- Bird seed
- String



### Instructions:

Collect pine cones that are open, so that you can get the peanut butter and bird seed inside the crevices. If the cones are closed, put them in an oven on a low heat or place them on a warm radiator until they start to open up.

Tie a piece of string around the top of the pine cone. This will allow you to hang the feeder in your garden when it's ready. Next, spread peanut butter into the gaps, all around the cone. Finally, roll your cone in a bucket of bird seed. The seed should stick to the peanut butter. Your feeder is now ready to hang! Try placing it in a spot where you can see it from a window, to watch what birds come down to feed.

## Activity 3: Make a bird's nest



Birds use many different materials to make their nests. Different bird species use different materials and their nests can look very different. Typical nest materials used include twigs, dry grass, moss, feathers, animal fur, sheep's wool, fluffy seeds and mud.

Amazingly birds can make strong and beautifully woven nests using only their beaks! See if you can make a nest that can stay together, by weaving together twigs or grass, or using mud to help the materials stick. You might like to try and re-create one of these birds' nests using the same materials that they use:

### Blackbird's nest



© APHOTOFAUNA

**Shape:** Small and round (but a bit messy!)

**Materials:** Grass and twigs, bound together with mud

**Location:** Usually in hedges or bushes – sometimes on shelves in garages!

### Robin's nest

**Shape:** Small, neat and cup-shaped

**Materials:** Grass, moss and dead leaves, lined with animal fur and sheep's wool

**Location:** Usually in a hole in a tree stump, bank or wall – but have been found in buildings, old cars and even coat pockets!



© APHOTOFAUNA

### Blue tit's nest

**Shape:** Small, round and very well-padded with soft materials

**Materials:** Moss, sheep's wool, dead leaves, spider's webs and lined with fluffy feathers

**Location:** In small holes in trees or walls. Also in nest-boxes, drainpipes and have even been found in letterboxes!



© APHOTOFAUNA



# The Big Pond Dip

Many woodlands have ponds or streams, and these habitats are fantastic for wildlife - not just animals that live or breed in the water such as frogs, toads, newts and fish, but also for many other creatures. Vast numbers of insects live in the water, and many that we think of as living outside of the water (e.g. midges, mosquitoes, mayflies etc) spend much of their lives in the water as larvae. They provide a vital food source for bats and birds.

## Activity 1: Pond or stream dipping

### What you need:

- **A fine mesh pond net** - if you do not have a net you could buy a cheap kitchen sieve with a fine mesh, and tape it to a bamboo cane to make your own pond net. You can use rock pooling nets, but the mesh size is larger so you may not catch smaller creatures.
- **A light coloured tub or tray** filled with a couple of centimetres of pond water to empty your net into - this will make it easier to see any creatures you catch.
- **A pond wildlife ID chart** - you can download a selection of free pond guides for invertebrates, amphibians and dragonflies from OPAL [here](#).



### Top tips:

- Move your net through the water in sweeping movements. Try areas where there are pond plants as creatures are more likely to be in sheltered places.
- Even if you can't see anything in your net, try emptying the net into your tray of water - it can be hard to see smaller creatures when they're in the net.
- **'Kick sampling'**: If you are stream dipping, pick a shallow area where there are rocks and pebbles on the stream bed. Stand in the water (with wellies on), and face downstream. Shuffle your feet backwards and forwards, holding the net in front of you, so you will catch any disturbed creatures in your net.

### Be safe!

- Always wash hands after pond and stream dipping
- Be aware that the edge of a pond may be muddy and slippery, so take care to find a stable area for pond dipping.
- Some pond bugs can bite, so it is best not to handle them.

Remember to look after the wildlife and put creatures back into the pond or stream after looking at them.



## Activity 2: Test water quality

Use the **OPAL Water Survey resources** to find out how healthy your pond is. By taking part you can help with national research into water quality. The OPAL ID guide has scores for different pond invertebrates - those found only in clean water score 10, those that can be found even in more polluted water score 1, and those that can tolerate some pollution but not too much, score 5.

**Is your pond or stream healthy? If you find these insect larvae then it is a sign of clean water.**

### Cased caddisfly larvae

The cased caddisfly larva creates a camouflaged case to hide in, by sticking tiny stones, bits of leaves and other materials to a silken tube around its body! Look carefully for the cases, and you may find a creature inside!



### Dragonfly larvae

The dragonfly larva is a ferocious underwater predator! They move very fast using jet propulsion (rapidly expelling water from their intestines) to fire them through the pond and catch fish, tadpoles and other insect larvae! They have six legs and may be 2-6cm long and green, yellow or brown.



### Damselfly larvae

The damselfly larva is more slender than its close relative the dragonfly larva. It has six legs and three leaf-shaped tails. Although smaller, it is still a fearsome predator with an extendable jaw used to snatch passing water fleas and other insect larvae!





## What are larvae?

'Larvae' is the name for immature insects. Most insects spend the majority of their life as a larva, and may only live as an adult for a short time. Some insects like dragonflies and damselflies change slowly over time. Each time they moult (shed their exoskeleton) they grow a bit and look more and more like an adult. On their very last moult they leave the water and get their wings and bright colours!



© APHOTOFAUNA

The shed exoskeleton of a dragonfly larva after its final moult. Look out for these on pond and stream-side plants in May and June!

Other insects such as the cased caddisfly, will undergo complete metamorphosis (like a caterpillar turning into a butterfly). These insect larvae usually look nothing like the adult they will turn into! The larvae will first turn into a cocoon or pupa, and inside here it will dissolve into a sort of insect soup, and rebuild itself into the adult insect!

Identify dragonflies and damselflies using this free [spotter sheet](#) from the Wildlife Trusts



### Activity 3: Make a dragonfly

#### What you need:

- A clothes peg
- Acetate sheet (and acetate pen)
- Felt tip pens
- PVA glue and buttons/sequins/felt to decorate (optional)



**Instructions:** Draw a set of dragonfly wings onto an acetate sheet (you may like to find a template on the internet to draw around to get the right shape). You can draw on the vein pattern on the wings if you want to. Cut out the wings and clip them into the clothes peg, which forms the dragonfly's body. Stick or draw on the eyes, and decorate the body as you like. You could copy the patterns and colours of a real dragonfly species, or make up your own! You could use pipe cleaners or craft wire to make the six legs too.

Spring and summer



# Wildflowers and Pollinators

## What are pollinators?

Pollinating insects play a very important role in helping plants to reproduce. By visiting flowers to collect nectar and pollen for their food, insects become covered in pollen. The pollen brushes off their bodies onto the flowers they visit next. If it is the same species of flower it can be fertilised and produce seeds, which will grow into new plants.



© APHOTOFAUNA

Early bumble-bee with full pollen-baskets on her back legs. The females collect pollen for the nest.

Bees are very important pollinators, but they are not the only insects that pollinate plants. Did you know that flies, wasps, beetles, moths and butterflies are also important pollinators?



A wasp pollinating ivy flowers



A silver-washed fritillary butterfly

Images © APHOTOFAUNA



## Activity 1: Spot spring flowers and early pollinators

Woodland wildflowers come out early in the year, to make the most of the spring sunshine before the trees come into leaf and the woodland canopy closes above them. This means they provide a very important source of food for pollinators early in the year.



Which spring flowers can you spot? Can you see any pollinators feeding on their nectar?



Dog violet



Bluebell



Wood anemone



Wood sorrel



Wild garlic



Lesser celandine



Primrose

Find out more about woodland wildflowers by downloading our **Free Plant ID guide** [here](#)



## Activity 2: Spring nature trail

You could make a spring woodland walk into a nature trail, by hiding these facts about wildflowers around the woods, and creating a question sheet. Participants have to find the answers along the trail, and try to spot the different spring flowers along the way.



**Lesser celandine** is a member of the buttercup family. It is glossy, butter coloured leaves, and heart-shaped green leaves. The name 'Celandine' comes from the Greek for Swallow, because the flower is said to flower when the swallow arrives in spring.

**Bluebell** forms beautiful carpets across the woodland floor in May. Bumblebees love the early source of nectar the many flowers provide. Our native English bluebells have petals that curl up at the ends, and the flowers all nod to one side.



**Wild garlic** or 'ramsons' can be used in salads and cooking. Crush a leaf - can you smell the pungent aroma? The latin name is *Allium ursinum*. 'Allium' means garlic, and 'ursinum' means bear. It is thought to get this name because bears will dig up and eat the garlic bulb!

**Primrose** is often the first flower of the year. The name primrose comes from the latin 'primus', meaning 'first'. This makes them a vital food source for early bees and flies. In Devon primroses are considered very important, and they are a Biodiversity Action Plan species!



**Violets** are delicate spring flowers with heart-shaped leaves. Flowers range from deep purple to lilac or white. They are an important food plant for caterpillars of several fritillary butterflies. There are several types of violet - look out for sweet violets, which have a lovely scent.



## Activity 3: How good is your meadow for bees?

Summer is the best time of year to spot meadow wildlife. You can take part in Plantlife's national study to find out how good local meadows are for bumblebees, by spotting wildflowers and bees in your area. Free ID guides and survey resources can be downloaded [here](#).

### A bee's favourite colour...

Bumblebees see purple more vividly than any other colour! These are some meadow and woodland-edge plants are particularly good for bumblebees and can be spotted in July and August:



Hedge woundwort



Selfheal



Knapweed

© APHOTOFLORA

### Did you know?

There are seven common species of bumblebee that you are most likely to see, and six common cuckoo bumblebees, which impersonate the others. They live alone and lay their eggs in the nest of a similar looking bumblebee, so that their young are fed and raised by the worker bees from that nest!



### The Tree Bumblebee



© NHM

Most bumblebees nest close to the ground, but the tree bumblebee, which is a recent arrival in the UK, nests higher up in trees. You can identify it from its fuzzy orange thorax, black abdomen and white tail. Although not native to Britain, it is a welcome arrival as it is a useful pollinator and not aggressive to our native bees. You can help track its spread across Britain by sending your sightings to OPAL [here](#).



## Activity 4: Make a bumblebee

### What you will need:

- Black and yellow pipe-cleaners (long ones)
- Assortment of coloured pom-pom balls (orange, yellow, black, white and red)
- Craft wire
- Small black beads to thread on craft wire
- Acetate sheets
- Acetate pens
- Child-safe scissors
- PVA glue or double-sided sticky tape



Download the Bumblebee Conservation Trust's free ID guide [here](#) and re-create your favourite species

The craft materials can be purchased from most kids' craft suppliers and toy shops.

### Instructions:

**The body:** Take a black and yellow pipe-cleaner and holding them side-by-side, coil them loosely around a pen or your finger to create a spiral, taking care to ensure the colours alternate. Once you have your spiral, gently stuff the middle using the pom-pom balls. The two pom-poms at either end should protrude slightly, to create a head and 'tail'. You may like to choose colours to match specific bumblebee species (e.g. use a white pom-pom ball for the tail, to make a white-tailed bumblebee). The coil should hold the pom-poms in place without glue, but if they are loose try using larger pom-poms or tighten the coil by gently twisting and pushing it together.

**The antennae:** Carefully secure two pieces of craft wire (several centimetres long) to the pipe cleaner at the head end by wrapping some of the wire around the pipe cleaners to secure it. Thread beads onto the wire, to finish the antennae, and give them a 'segmented' appearance like real bee antennae.

**To wings:** Draw a bee wing outline onto acetate - you may also want to draw on the pattern of the wing veins. Cut out the wings, and stick them to the bee's back using PVA glue or double-sided sticky tape.

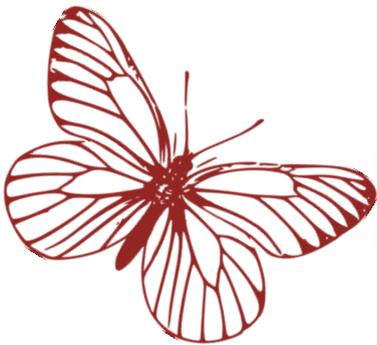
Summer



# Butterflies and Bugs

Summer is a great time to search for insects living on forest plants and in meadows. Butterflies and bugs are important pollinators. Some such as ladybirds and crickets play an important role eating aphids and caterpillars that can damage plants. They all provide food for larger forest animals including birds and bats.

## Activity 1: Spotting butterflies



### Woodland butterflies in need of help...

The majority of our butterfly species are in decline. The biggest decline is in woodland butterfly species. This is thought to be because of a loss of ancient woodland and the loss of open spaces and sunny glades in woods, where many caterpillar food plants grow. Download the Wildlife Trust's woodland butterfly spotter sheet here and see which you can find: [wildlifewatch.org.uk/spotting-sheets](http://wildlifewatch.org.uk/spotting-sheets)



#### Speckled wood

One of the few woodland butterflies not in decline. Its caterpillars feed on grasses, and adults get nectar from bramble and dandelion.



#### Silver-washed fritillary

One of our largest butterflies. Caterpillars feed on dog-violets. Not rare, though still of conservation concern. Look for in sunny glades.



#### Purple hairstreak

A specialist of oak woodland, rarely seen as it spends much of its time in the canopy. It has been recorded in woods in Plymouth.



## Big Butterfly Count



During July and August you can also help with national research into butterfly populations by downloading a free ID guide [here](#) and taking part in Butterfly Conservation's Big Butterfly Count.

## Activity 2: Caterpillar hunt

### What you will need:

- You can download free caterpillar spotting sheets to help you identify what you find [here](#).
- A magnifying glass, light coloured tray and specimen pot may also be useful

### Top tips:

Caterpillars spend most of their time eating the leaves of their favourite food plants!

- Look out for leaves that have been nibbled, and search underneath them for caterpillars hiding there. Some may be camouflaged, so look closely.



- Some caterpillars will roll themselves inside a leaf, so look at for folded or rolled leaves as well.
- Hold a light coloured tray or piece of paper beneath the branches of a tree or bush, and give them a shake (taking care not to damage the plants) - see if any caterpillars may fall out!
- Look out for the common plants on our caterpillar food menu below, to maximise your chances.



### Be safe!

- Never touch hairy caterpillars! The hairs can be very irritant and cause painful rashes.
- Wear long trousers and sleeves if going through dense vegetation as there may be ticks.
- Watch out for thorny plants and stinging nettles.

Remember to look after the wildlife and put creatures back after looking at them.

## Caterpillar menu: eight common plants caterpillars love to eat



Stinging nettle



Bird's-foot trefoil



Dock



Grasses



Oak



Plantains



Dandelion



Yarrow

Images © APHOTOFLORA

### Caterpillar survival...

Caterpillars are very vulnerable to being eaten - they are slow moving, soft-bodied and they can't fly away. They need other ways to protect themselves. Can you find caterpillars with these different defence strategies?



Bright colours to scare predators



Hairs that cause irritation to stop predators eating them



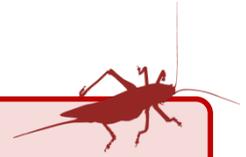
Camouflage so predators won't see them!

Large 'eye'-like markings, to scare predators



Images © APHOTOFAUNA

### Activity 3: Make a butterfly



#### What you need:

- A clothes peg
- Card
- Felt tip pens
- Craft wire
- Beads

#### Instructions:

**Wings:** Draw a set of butterfly wings onto card, and cut out. Colour in the wings, copying the pattern of a real butterfly species or make up your own. Why not follow the tips below to make a butterfly that could survive in the wild!

**Body:** Once your wings are ready, clip them into the clothes peg, which forms the butterfly's body.

**Antennae:** Attach two lengths of craft wire, several centimetres long, to the tip of the clothes peg. You can secure the wire by clipping it into the peg, and using some tape to reinforce it. Finally thread beads onto the antennae, using a larger round bead at the top to give them a 'club-shape' like real butterfly antennae!



#### Butterfly wings

Butterflies are delicate insects - they don't have hard shells, large jaws or stings to protect themselves. Instead they use camouflage and disguise to stay safe! Follow these tips from nature to create a butterfly that will escape its predators.



Markings on wings that look like large eyes, so predators think the butterfly is a much larger animal!



Dull coloured undersides of wings, so butterfly is camouflaged when at rest, with wings closed overhead.

## Activity 4: Summer bug hunt in a forest



As well as searching for caterpillars, there are many other insects you are likely to find in trees and other plants during summer. Here are some tips on how to find them:

- Hold a light coloured tray beneath the branches of a tree or bush, and give them a shake (taking care not to damage the plants) - see what falls out.
- Use a stick to gently tap branches and leaves overhead, holding a tray underneath.
- Use a dustpan brush to sweep over branches and lower growing plants, brushing any bugs into your tray.

Some top forest bugs to spot...



**Spotted longhorn  
beetle**



**Cucumber-green  
orb spider**



**Hawthorn  
shield-bug**



**Green lacewing**



**Kidney-spot  
ladybird**



**Great Green  
Bush-cricket**

Free spotter sheets with many more pictures of shieldbugs, beetles, spiders and ladybirds can be found [here](#).

# Further ideas

## Spotter sheets:



- More spotter sheets available from the Wildlife Trusts [here](#) including signs of spring, winter wildlife, autumn leaves, snails, nuts and berries, wild fruit, fungi and galls. You can even create your own spotter sheet using the Wildlife Watch's online image bank.
- There are also many ideas for woodland wildlife activities available from the Woodland Trust's Nature Detectives [here](#).

## More birds



- Barn Owl-themed craft activities, facts, games and jokes from the [Barn Owl Conservation Trust](#).
- Check out the [RSPB Kids' pages](#) for fun activities, facts and games.

## More bugs:



- [Buglife](#) has many free spotter sheets, colouring sheets and posters, plus how to make a bug hotel.

## More butterflies:



- Free butterfly-themed scavenger hunts, craft activities and factsheets from [Butterfly Conservation](#).

## More plants:



- Free spotter sheets for different months of the year from [Plantlife](#)
- Our free woodland plant ID guide from the [Plymouth Woodland Project](#)
- A plethora of family-friendly activities from [Wild About Plants](#)

## Fun science studies to take part in:

- Downloadable ID guides and citizen science activities for free from [OPAL](#)

## Outdoor adventures:



- National Trust's '[50 things to do before you are 11 and ¾](#)' is packed full of outdoor challenges to keep you inspired with ideas to get out and about in nature
- Check out what's on at [National Trust Plym Valley](#)

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## Image credits

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This pack has been designed and edited by Alison Smith, School of Biological Sciences, Plymouth University.