

# Encounters Teacher's Pack

*Resources and ideas for engaging with ecology in your classrooms*

## Key Stage One



# Getting started with Encounters

The Encounters platform was co-designed with teachers and educators during the British Ecological Society's Connecting Schools to Nature project. The platform aims to support teachers in running your own nature and ecology activities in your schools. Classes can work through the activities on the platform, collecting badges and earning certificates when you achieve the different levels. There is also a resource hub where you can access a whole range of resources to support your activities including lesson plans, worksheets, assemblies and how-to guides.

**Encounters is free for any school to sign up! You'll need to enter a few details about your school and verify your account from your email address. Then, you'll be ready to get started!**



**Head to: [www.mammalweb.org/en/bes-encounters](http://www.mammalweb.org/en/bes-encounters)**

## ***Setting up class and student accounts***

The first thing you'll need to do after you've signed up to Encounters is set up your class accounts. You'll be prompted to do this when you first log in, or you can navigate to the School Admin page via the Educator Zone. Here you can set up and change your school details and tailor the number of class accounts you would like. You can also set up individual pupil accounts linked to your school for pupils to work through tasks independently in or outside of school.

## ***Help!***

If at any point you get stuck when using Encounters you can navigate to the Help page where you will find a series of articles and tutorials with advice on specific sections, how to navigate the website, and top tips for making the most of the platform.

***"We've really enjoyed taking part in the project...the children have particularly enjoyed the online platform Encounters and learning how to spot mammals. It's given their outdoor learning purpose and their interest in nature has soared."***

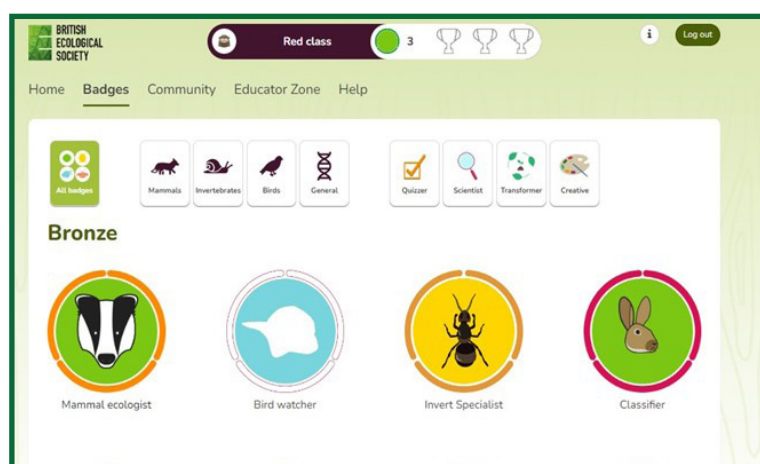
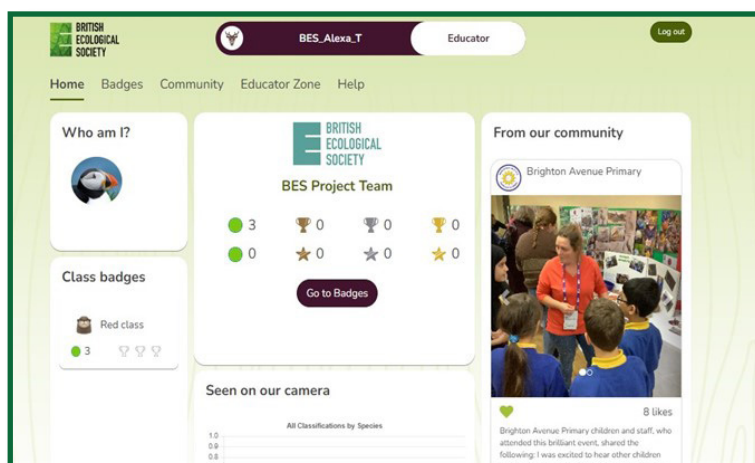
***Teacher at Dunn Street Primary***





## School dashboard

The home dashboard shows a summary of your school's progress, including the number of badges and awards you've earned, as well as any recent camera trap activity and posts made in the community tab. From here you can navigate to all the different sections of Encounters.

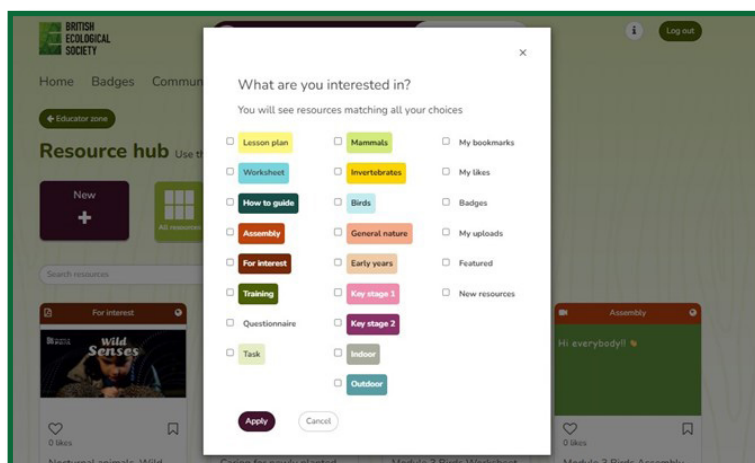


## Badges

The badges page provides a structure to work through different nature-themed activities. The badges are organised by award, progressing from bronze to gold award, and can be filtered by type of activity or animal taxa. Once the bronze level is completed, you'll receive a certificate to download, and silver level tasks are unlocked.

## Resource hub

The Resource hub contains a variety of educational resources developed by the BES, volunteers, and other organisations. These resources can be used to plan school activities as well as complete relevant badges. You can filter by type of resource to explore existing content, and even upload your own contributions.



## Community

The community page is an open space for teachers to share their progress and most recent activities, as well as celebrate what others have achieved. Posts are moderated by the BES, and external organisations with accounts can also post about upcoming events or opportunities.

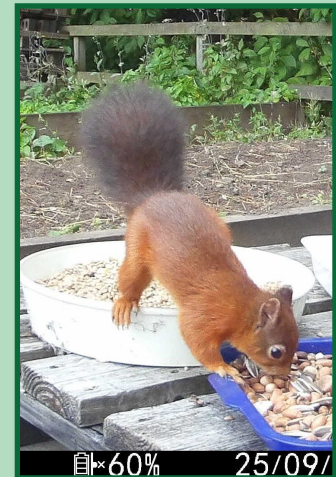
# Camera trapping and MammalWeb



The Encounters platform was built in partnership with the citizen science project MammalWeb. The MammalWeb project invites individuals, schools and organisations to upload and classify camera trap footage. When your school signs up to Encounters, a project will automatically be created for you on the MammalWeb website. If you don't have a camera trap then don't worry, you can still use Encounters and take part in MammalWeb!

## Benefits of camera trapping

Camera traps are motion-sensing cameras that you can put out in the environment to see what wildlife is present. As the cameras work all hours of the day and are relatively non-invasive to animals it's a great way to see what mammals and birds are visiting your school. Research shows that children tend to be more familiar with exotic wildlife than they are with local wildlife, so it's a great way to introduce pupils to local species. Plus, if you submit your camera trap footage to MammalWeb, you'll be helping scientists track populations which helps to make informed decisions about species conservation for the future!



## Your project on MammalWeb

If you've uploaded camera trap footage to Encounters then you'll start to see what species you've captured on your school's dashboard. You can also access your project page from the MammalWeb website where anyone can register to view and classify. You could share the project link with parents so they can also see what wildlife your school has been capturing! Even if you don't have a camera trap, you can still classify footage from any other project on MammalWeb, including seeing what other schools have captured!



**Visit the [BES Encounters project page on MammalWeb](#) to see what other schools have captured and to find your own project once registered!**



## Thinking of buying a camera trap?

Visit the Schools page on the MammalWeb website for some tips on where to purchase camera traps or get in touch with MammalWeb for more information.



# Transforming school grounds

As well as taking part in nature-based activities, many schools that the BES have worked with have also improved school grounds for nature. Transforming school grounds can generate benefits for nature itself, as well as for the pupils and teachers who spend time in these spaces. Even if your school grounds are only small, there are plenty of things you can do to encourage more wildlife.

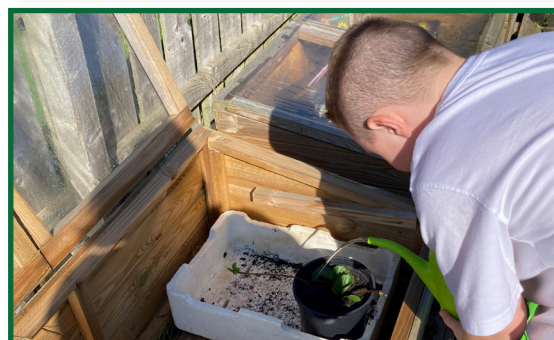
***"We created a sensory area, putting up bird boxes and encouraging wildlife through various flowers and plants. It will give pupils a space to be calm and peaceful, plus opportunities to support gardening club which will impact on behaviour."***

**Teacher at The Beacon Centre Primary**



***"We created a vegetable garden. Children planted and looked after their growing vegetables. They then harvested all vegetables and used them to make soups during their Forest School Sessions. Children enjoy caring for vegetables and plants. The plants attracted more insects and children enjoyed observing them using magnifying glasses."***

**Teacher at Laygate Community Primary**



***"We have allocated an area within the schools grounds so that children can complete sampling work. We have set aside three, 12x12m areas for cut grass, uncut grass and wildflowers."***

**Teacher at Barnard Grove Primary**



## Green transformation competition

During our Connecting Schools to Nature project, our partner schools took the time to design their ideal green school. Both teachers and pupils submitted their designs which were then shared with the wider community via a digital exhibition. Taking the time to ask pupils and teachers how they envisioned their ideal green school grounds was useful for schools to plan what they would like to do in their grounds, both in the short-term and in the long-term. Perhaps running a similar competition in your school might be a useful first step for your green transformation journeys!

*Find inspiration for your own school by viewing pupil entries in our virtual gallery on the [BES website](#)*



# Benefits of connecting with nature

Many studies have shown that there are a range of benefits associated with connecting children and young people with nature. These include increased mental well-being, more positive attitudes towards the environment and better knowledge of local species. By engaging with nature through our Encounters platform and resources, pupils and teachers can benefit, as we found with partner schools in our own project, Connecting Schools to Nature.

## ***Benefits for pupils***

By measuring connection to nature scores of pupils we found that on average, scores significantly increased after participating in the project. We also found that pupils could name more UK species such as hedgehogs, dragonflies, and blackbirds. Teachers also noted the difference in children's knowledge and connection to nature and 77% of teachers agreed that their pupils' mental well-being had improved as a result of the project.



***“Staff have had outdoor teaching ideas and interest reawakened, as well as improved motivation.”***

***Teacher at Cassop Primary***

## ***Benefits for nature***

By taking part in the activities on Encounters schools also made improvements for nature in their school grounds. Even small changes such as putting holes in your school fence for hedgehogs to pass through, or making a small wildlife pond can make a huge difference to the wildlife present on your grounds. Using the activity ideas and lesson plans on Encounters, you can then monitor that change by surveying for wildlife big and small!

***“Children have a better understanding of wildlife. Some of my children did not know that foxes lived in this country until spotted on the camera trap.”***

***Teacher at Our Lady of Lourdes Catholic Primary***



## ***Benefits for teachers***

Teachers reported their own connection to nature and knowledge of UK wildlife increased after participating in the project. Furthermore, 56% of teachers agreed they enjoyed their day-to-day teaching more and 52% agreed their well-being had improved (other teachers answered neutrally). Teachers also agreed the project gave them skills and confidence to improve outdoor learning in their schools.

***Learn more about the benefits of the Connecting Schools to Nature project on the [BES website](#)***





# Embedding ecology and nature in your day to day teaching

There are plenty of opportunities to embed ecology and nature into your everyday teaching. On Encounters and throughout our resources, we've suggested areas within the curriculum that activities can link to. Whilst most of the activities can link to the science curriculum, there are also plenty of ways to bring nature into other areas of the curriculum such as art, math and English. Working through the badges on Encounters is a great way to bring different aspects of nature into your teaching. You can also use the Badge Scheme on Encounters to plan your nature activities around events and topics being taught throughout the school year.



## ***Mammal ecologist***

To gain your mammal ecologist badge you'll need to complete 3 mammal quizzes on MammalWeb. Quizzes on MammalWeb have been designed for primary school pupils and offer a fun way of introducing a range of different UK species. You could pair quizzes with another activity such as counting how many mammals in the quiz are also nocturnal,

## ***Bird watcher***

To gain your bird watcher badge, complete a bird watch by going outside and seeing what types of birds you can find. Our accompanying lesson plan will suggest ways to tailor your bird watch to different age groups. You could look in the same area at different times of the year to see how the types and numbers of birds change between seasons or, look in different places to compare habitats.



## ***Bug buddy***

To gain your bug buddy badge you'll need to design and build your own insect hotel. Pupils will use their creativity skills to design the hotel before getting hands-on making their own. You can make an insect hotel out of a range of materials you find lying around. On Encounters we've provided links to different resources to give you some inspiration and tips when it comes to their design and build.

**In the rest of this teacher's pack you'll find some resources to get you started on your nature connection journeys. Find more by heading to Encounters:**

**[www.mammalweb.org/en/bes-encounters](http://www.mammalweb.org/en/bes-encounters)**



# Pupil Workshop

# Camera Traps

## Objective

- To engage pupil's in using camera traps in their school ground to monitor wildlife
- To introduce them to different UK mammal species, and make them aware of why monitoring is important.

## Resources

- Camera traps (with memory cards, batteries, a strap, and a lock)
- Mammal cards (printed photos of UK mammals – these can be printed from the Encounters platform)
- Access to computer with internet
- Access to outdoor space

## Length of Session

- 2x 30min sessions.

## Curriculum Links

- KS1 Yr 1: 'identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.'
- KS1 Yr 1: 'identify and name a variety of common animals that are carnivores, herbivores and omnivores.'
- KS1 Yr 2: 'identify and name a variety of plants and animals in their habitats, including microhabitats.'
- KS1 Yr 2: 'identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.'
- KS2 Yr 4: 'recognise that living things can be grouped in a variety of ways.'
- KS2 Yr 6: 'describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals.'
- KS2 Yr 6: 'identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.'



# Session 1

## Setting up the camera trap

### Introductions (5 mins)

- Recap the project, and that we are trying to find out what animals (particularly mammals!) might live in and around our school
- If you haven't done so already, now might be a good time to watch the "Mammals" assembly

### Looking at the camera trap (5 mins)

- Show pupils the camera trap
- Explain how the camera trap works
- Triggered by motion and heat so when an animal walks past it takes a photo
- Images stored on an SD card which can then be looked at on a computer

### Mammal treasure hunt (15 mins)

- Give out the "Mammal Treasure Hunt" worksheet and explain to the class that you're going to go outside to look for a good place to put the camera trap, but to do that we need to 'think like a wild mammal'
- You can either:
  - (a) ask each pupil to think of a wild mammal they might find in their school grounds – you may have to guide to realistic mammals they might find
  - (b) assign whole class or each pupil a mammal to think about – fox, hedgehog and mouse might all be good options
  - (c) ask the class to think about 'wild mammals' in general
- Go out into school grounds and let children fill in sheet as they go round. Depending on your school grounds and the children's age you could guide them round, or let them go off in groups or individually and then come back together
- They can either just 'tick' once they've found each place, or if you make the box bigger they could write their answers down or even draw them
- Discuss what they found! There's no right or wrong answers here but it's more about getting them to think about their reasoning and about how good their school grounds are for wild mammals and perhaps what could be done to improve them. Even if your school grounds are small and fully enclosed that can make for some good discussions on why you may only find small mammals such as mice in your school!

# Session 1

## Setting up the camera trap

### Setting up the camera trap (10 mins)

- Explain how all of these places they've found where they think mammals might be would be a good place to set our camera trap up
- Go to where their school's camera trap is currently set up (or, if not set up yet to a place you think would be suitable to set it up – guided by some the answers from the treasure hunt)
- Ask pupils to give a thumbs up or thumbs down if they think this is a good or bad place to put a camera to get photos of animals and maybe ask for few suggestions of why they think it's a good / bad place
- Set the camera trap up! To get the children involved you could assign different pupils different responsibilities (e.g. securing the lock, checking the settings) and for each step explain why it's important. Here are some discussion point ideas for when you're setting the camera up:
  - Location and habitat: This is important as we need to know which mammals are captured where. By doing this we can work out patterns and start to look at why mammals might be seen here or not
  - Time you set up the camera: It's important to know how long the camera was set up for as this can help tell us how many mammals there may be or how often they are visiting. E.g., if you set a camera up in one location for a week and got 100 captures of rabbits and then set it up in a different location for a week and got 10 captures, which location probably has the most rabbits? This is important for scientists to know how well populations are doing and where we might need to step in and help them
  - Security: Why might we need extra security for our camera?
  - Height: Why is it important to note down the height of the camera? Because you'll get different animals depending on the height you put it. If you put the camera too high you may miss small animals like mice or even hedgehogs – that doesn't mean they're not there but you'll need to set the camera lower next time to see if you capture them!
- Explain that you're going to leave the camera trap here for a few days and then will come back and see what has been captured!
- N.B. If you would like some extra tips on where to set the camera up please see the guides available on the Encounter platform



# Session 2

## Collecting the footage

### Preparation

- Before this session please collect the footage from the camera trap and upload it to MammalWeb which you can do via the Encounters hub platform. If you need any help with this please see the help guides on the Encounters hub or contact one of the team who will be happy to walk you through the process.

### Introductions (5 mins)

- Recap the project, and talk about where you put the camera trap in the last session. Explain that you're going to look at the footage from the camera trap but first you're going to learn a little bit more about what mammals we have in the UK!

### UK mammals (10 mins)

- Give each pupil one mammal card (these can be found and printed on the Encounters hub)
  - For younger years you may want to remove some species and just focus on a few key ones – but it would be great to keep in one or two species they are less familiar with
- Ask if anyone isn't sure what species of mammal their card is (answer by asking others for ideas)
- Play a game either asking pupils to stand up or move to one side of the classroom if their animal is (some ideas below but pick out appropriate ones for your classes age or add in your own!):
  - Nocturnal (only comes out at night) / Diurnal (comes out in the day)
  - Carnivore (eats meat) / Herbivore (eats plants) / Omnivore (eats meat and plants)
  - Native (comes from the UK) / Non-native (comes from another country)
  - Lives underground
  - Can climb trees
  - Has antlers

## Session 2

# Collecting the footage

### Encounters platform (10 mins)

- If your class hasn't used the Encounters platform before introduce them to this – you could use the Encounters introduction video if you haven't watched this before
- Explain how you've uploaded footage from your school's camera and therefore everyone has won a badge! When they next log on (you can do this either in the session or later depending on your school's computer set up) they will be able to collect this badge and win some points!
- Next move on to classifying on MammalWeb. Go to the Spotter page on MammalWeb and classify photos from your school's project (if you need help on how to do this then take a look at the guides on the Encounters platform or drop one of us an email)
- Go through classifying your images – you can get the children to guess what the animal is in each image that comes up and talk about different things such as looking at what time the animal captured or if it was captured more than once. You could also do the “Camera trap classifying – habitats worksheet” or “Camera trap classifying – nocturnal worksheet” alongside classifying
- If you have time or if your school didn't capture much wildlife then take a look at a different school's captures and see what different animals they might have captured to you

### Mammal articulate (for KS2, 5 mins)

- Using everything you've learnt about different mammal species today, ask for volunteers to play mammal articulate
- Use the mammal cards and ask pupils to describe the mammal on their card (give examples of things they can use to describe e.g. nocturnal / diurnal, native / non-native)
- You could also repeat this game with mammal charades (i.e., getting the pupils to 'act' out each animal)

### Summary and wrap up (5 mins)

- Summarise everything we've done and learnt about today!





# KS1 Pupil Workshop


## We're Going on a Bug Hunt!

### Objectives


- To encourage pupils to get outside and learn more about living things, with a focus on learning about invertebrates (animals without a backbone).
- This session will familiarise the class with how to monitor and identify common invertebrate species in their school grounds.

### Curriculum Links

#### Science

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- Pupils will develop skills in Working Scientifically through understanding more about the nature, processes and methods of science
  - Y1 KS1 = 'Identify and name a variety of common animals that are carnivores, herbivores and omnivores'
  - Y2 KS1 = 'Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.'
  - Y2 KS1 = 'Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food'
  - Y2 KS1 = 'Identify and name a variety of plants and animals in their habitats, including micro-habitats'

#### Maths

- KS 1 Yr 2 = 'Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity'
  - KS 1 Yr 2 = 'Ask and answer questions about totalling and comparing categorical data'
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# KS1 Pupil Workshop

## We're Going on a Bug Hunt!



### Resources

- Accompanying BES worksheets
- 10x FSC 'Insects' field guides
- Insect survey equipment
  - 50x bug pots
  - 2x sweep nets
  - 10x mini magnifying glasses
  - 2x heavy-duty sampling trays (5 litre)
  - 1x beating sheet (1m x 1m)

### Length of Session

- 45 mins
  - Can be adjusted as needed

### Looking at equipment (10 mins)

- Use this time to show pupils the equipment that will be used for the bug hunt
- Explain what each piece of equipment is, and how to use it safely
  - See our Insect Equipment How-to guide for handy tips & advice!
- Discuss with pupils how best to act whilst on the bug hunt – handle invertebrates gently
- Discuss with pupils where they think they will find insects – identify grassy areas, hedgerows, plant pots, wild areas





# We're Going on a Bug Hunt!

## Bug Hunt (20 mins)

- Split pupils into 3 groups (depending on age/staff availability) and share out equipment - 2 groups receive a sweep net and 1 group receives the beating sheet.
- Distribute magnifying glasses, bug pots, sampling trays and FSC guides between groups.
- Sweep nets - sweep quickly back and forth for ~1 minute in grass/hedgerows/wild areas, then empty sweep net gently into sampling tray or hold for pupils to look at
- Beating sheet - place sheet on ground under any trees/shrubs/hedges and shake branches quickly so that any insects fall onto sheet
- Use FSC guides to identify species and get pupils to make a note of what they found and where
- You may find it easier to collect a couple of animals in a bug pot to show the class as a group rather than individual pupils handling the insects directly
- Discuss with pupils where there were more insects and what areas of the school there were less - feed into the planting activity

## Tidy up equipment (5 mins)

- Allow time to gather up equipment and regroup

# We're Going on a Bug Hunt!

## Discussion (10 mins)

- Summarise everything we've done and learnt about today!
  - How many insects did you find?
  - Where were they?
  - What sorts of habitats do these types of insects like?
  - How might we make your school more insect-friendly?
  - What can we do to help insects feel welcome in your school?
- Encourage class to do more bug hunts & keep spotting
- Remind class to log their achievements on the Encounters platform and how to collect badges for their work today
- Highlight new invertebrates content and activity ideas/tasks that individual pupils or the class could do throughout the rest of the module

## Optional

- This workshop pairs well with the "Becoming an insect-friendly school" planting workshop which explores how pupils might improve their school grounds to attract more invertebrates, with a focus on learning more about insect pollinators and understanding their role in the wider ecosystem in the process

# KS1 Pupil Workshop

## Birdwatch Bonanza

### Objectives

- To introduce pupils to the diversity of local bird life, including learning how to identify common bird species and some more about their unique behaviours (E.g. nesting, birdsong)
- Test your identification skills and see how many species you can spot doing a school birdwatch before testing your knowledge via a series of fun games, crafty activities, and listening exercises

### Curriculum Links

#### Science

- Y1 KS1 = 'Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals'
- Y1 KS1 = 'describe and compare the structure of a variety of common animals'
- Y2 KS1 = "Explore and compare the differences between things that are living, dead, and things that have never been alive"
- Y2 KS1 = 'Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.'
- Y2 KS1 = 'Identify and name a variety of plants and animals in their habitats, including micro-habitats'
- Pupils will also develop skills in 'Working Scientifically' through understanding more about the nature, processes and methods of science

#### Maths

- Y2 KS1 = 'Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity'
- Y2 KS 1 = 'Ask and answer questions about totalling and comparing categorical data'

#### Art & Design

- KS2 = "To use drawing to develop and share ideas, experiences, and imagination"

#### Music

- KS2 = "Listen with concentration and understanding to a range of high-quality live and recorded music/sound"





## KS1 Pupil Workshop Birdwatch Bonanza

### Session 1: Birdwatch

#### Resources

- FSC Garden Bird Guides
- Pens and pencils for colouring-in
- Binoculars (optional)
- Accompanying worksheets
  - KS1 Bird Logbook
  - Species flashcards
  - Nest colouring-in sheet

#### Duration

- 30 minutes, can be adjusted as needed

#### Activity

10 mins - Looking at the equipment

- Explain what each piece of equipment is, and how to use it, including how to operate the binoculars.
- Discuss with pupils where they think they will find birds. Identify nearby trees and bushes, nesting places, sources of food, or places on school buildings where birds might nest.
- Explain how the bird feeders and nest box will help attract birds to the area by providing food and safety.
- Discuss with pupils how best to act whilst birdwatching
  - Keep a good distance
  - Avoid sudden movements
  - Be as quiet as possible so as not to scare the birds away
  - Encourage pupils to listen carefully for birdsong as well as this can be a clue to where the birds are hiding

## Session 1: Birdwatch

### Quiz!

Use the species flashcards to test the pupils' knowledge and get them familiar with which birds to look out for - hide the name of the bird on the card and ask them to guess which bird is in the picture.

### Activity

15 mins - Birdwatching

- Split pupils into groups depending on class size and staff availability
- Distribute the FSC guides, binoculars, and worksheets between the groups
- Set a timer for 15 minutes and ask pupils to make a note of how many birds they can spot in that time.
- Encourage pupils to use the accompanying worksheets and species ID guides to help work out which birds they have spotted and log them on the worksheet.
- End timer & gather class back together

5 mins - Recording your results

- Get pupils to discuss the following questions:
  - How many birds did you spot in total?
  - How many of each species did you find?
  - Which species was the rarest and which was the most common?
  - Whereabouts was the best place to spot birds?
- Ask pupils to return their completed logbook.
- Explain that they have completed a birdwatch and all the information they have collected will be submitted to scientists

### Fun Fact!

An 'ornithologist' is someone who studies birds and their behaviour.

# KS1 Pupil Workshop Birdwatch Bonanza

## Session 2: Bizarre Bird Behaviour

### Resources

- Access to computer or phone to play audio:
  - [RSPB Bird calls](#)
- Accompanying worksheets
  - [RSPB top trumps](#)
  - [Bird nest colouring in sheets](#)
- Bird species flashcards
- Bird egg flashcards (optional)

### Duration

- 30 mins, can be adjusted as needed

### Activity

15 mins – Bird Nest Colouring Exercise & Discussion

- Discuss with the following prompt questions with pupils & check out our fun facts below to help guide you:
  - Why do you think birds build nests?
  - What are nests made of?
  - Where do you find nests?
  - How can we help nesting birds? E.g. leave out helpful materials and fallen leaves, cut hedgerows before spring, keep cats away from nesting areas
- Direct pupils to colour in their nests using the information we have just discussed (optional)





## KS1 Pupil Workshop Birdwatch Bonanza

### Session 2: Bizarre Bird Behaviour

#### Activity - Continued

10 mins – Bird Song Game

- Discuss with pupils how on the bird survey we could not only see the birds, but we could also hear their birdsong
- Discuss why birds sing (e.g. to identify and communicate with other birds, to attract a mate, or as an alarm call to protect their home)
- Hand out the species flashcards (or display on the ground) and tell pupils to listen to the song and hold up or point to the bird flashcard they think produced the song
- Use this link to play the birdsong: <https://www.rspb.org.uk/birds-and-wildlife/bird-songs/what-bird-is-that/>

#### End of session

5 mins – Encounters platform & summary

- Remember to log your achievements on the BES Encounters platform, collect the relevant badges, and work your way towards Bronze/Silver/Gold award!
- Encourage pupils to explore the and test their knowledge of birds via our other activities and quizzes available on the platform
- Register for the RSPB's Big School's Birdwatch to receive a series of additional free resources and continue the fun



## KS1 Pupil Workshop Birdwatch Bonanza

### Session 2: Bizarre Bird Behaviour

#### Key Facts - Bird nests

- A bird nest is a safe place that a bird lays its egg and shelters its young once the eggs have hatched.
- Cup nests, which are the typical bowl-shaped nest which you will see, are built using lots of different materials. They use rough materials (twigs and leaves) for the outside, soft materials (moss, fur, and feathers) for the inside, and sticky materials (mud, spider webs, and dung) to stick them together to build the nest.
- Typical cup nests are found in the branches of trees, as well as low bushes and even on the ground. Other places nests are found includes: sides of cliffs, floating on water, abandoned rabbit holes, and in buildings.

#### Additional Fun Facts

- The nest made by a stork, which is a long-necked and legged bird, can be nine feet deep and six feet wide. It is so big that sometimes smaller birds make nests in its cracks and branches.
- The smallest cup-nests are made by hummingbirds and can be as tiny as your thumb!
- Platform nests are so big they can take months to build. The nest of the Bald Eagle can weigh the same as a small car it's so big!
- Birds aren't the only creatures to build nests – wasps, mice and alligators do it too.

# Green Transformation

## Bug Hotel

A relatively straight-forward way to invite some invertebrate life into your school grounds is through the creation of a bug hotel. These can be bought or made using a variety of accessible materials like straw, dead wood, pinecones, old roofing tiles, bamboo and wooden pallets. The more natural these materials are, the better. Sooner than you know it, you may have provided permanent residence for animals ranging from solitary bees, woodlice and toads into your green space!



### Where should I place my bug hotel?

The hotel should be built or placed on firm, level ground. You don't want your hotel to slouch! A sunnier location will attract different species compared to a more shaded, damp one. This decision is up to you!

### What should my bug hotel look like?

The ideal bug hotel is filled with as many holes, nooks and crannies as possible. The more dead wood utilised in this structure the better - this will be a magnet to invertebrate life. Drilled holes and bamboo provide multiple hiding spaces for solitary bees and other insects.

### Should I accommodate for more than just bugs?

The use of stones and tiles at the base of the hotel to create larger holes will provide frost-free spaces that can accommodate toads and frogs during the colder months

### Keeping things dry

Old roofing tiles or planks of wood with roofing felt will be necessary to keep your bug hotel as dry as possible. This will make the hotel far more hospitable for small creatures

### Keep it personal

Part of the fun of bug hotels is that two never look the same - they are the product of your decisions! Stack them up however you see fit using the knowledge that bugs love compact spaces and dead wood!



# Green Transformation Wildflower Garden

With a small amount of effort and surprisingly little space, it is more than possible to create a habitat that will attract a diverse array of wildlife to your school. Native flowers not only look appealing, but it is one of the best things you can do to diversify the range of plants growing within your school grounds. There are a few important factors to consider when growing wildflowers, but rest assured these few instructions will cover them all!



## Where should my garden be?

It is important that you choose a patch of ground that is exposed to as much sunlight throughout the day as possible. Wildflowers need a lot of light!

## What kind of soil should I use?

Wildflowers thrive in nutrient-poor soil, so no compost or fertilised soil is required to grow these plants

## What seeds should I use?

Native wildflower seed mixes can be easily purchased online or at garden centres and are relatively inexpensive. These usually include plants like wild chamomile, thistle and poppies.

## How do I plant these seeds?

Is the land your working on bare? If not, you need to start by clearing away any grass and weeds. This can be done by turning over the top layer of soil with garden tools (scratching up the surface so fine soil is on the surface). You can then sow your seeds across the patch, using around 5g of seed for every square metre of soil.

## How do I help my wildflowers grow?

It is important to keep the soil moist, especially during hotter periods of time. Avoid any fertiliser as this can cause weeds and grass to outcompete your growing flowers

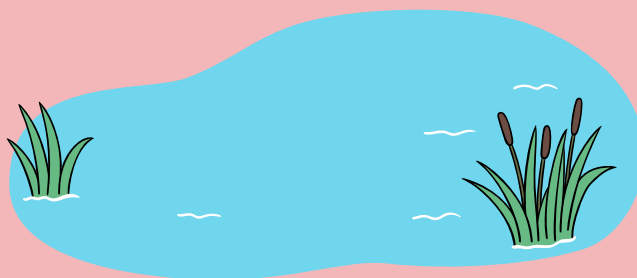
## When is the best time to do all this?

A lot of native wildflowers require colder temperatures for germination. Late Autumn is a great time to take on this project to have a full wildflower garden by summertime!

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## Mini Pond Guide

Building a pond might sound like a bit of a monumental task, but it is actually quite easy to bring aquatic life to your school with a 'mini pond'. Using (preferably) recycled materials, some pond soil, plants and rainwater, it is very possible to make a safe and educational habitat for all manner of small pond creatures.



### What will I need?

- A basin of some form (recycled sink, recycling box etc)
- Aquatic Compost
- Rainwater
- Aquatic Plants
- Stones or tiles

### Staying green

While it is possible to buy a large container to act as your mini pond, it would be preferable to use an old recycling bin, old sink or a washing up basin. It doesn't need to be anything fancy at all!

### How to setup your mini pond

1. Make sure your container is watertight - this could be a half-barrel or water tank
2. Try and make your container level with the ground. This might involve a bit of digging with a spade to slightly bury your container. If this isn't possible, try making a 'ramp' up the sides of your pond to allow creatures to reach it!
3. Layer in around 5-10cm of aquatic soil and add a few stones to the basin
4. Add your water! (Preferably rainwater as it contains no chemicals)
5. Add in some native aquatic plants (Hornwort, Willow Moss and Water Soldier are great options!). This will keep your pond clear in the long run, and entice wildlife to enter the pond. Some weed species are free floating, but potted plants can be sat on the bottom of the pond within their pots!

### Important Note

It isn't advised to collect pond life from wild ponds and place it in your own pond. If your pond is accessible, wildlife will eventually inhabit it. If someone you know has a garden pond, it's perfectly fine to take some plants from it as opposed to a wild pond!

