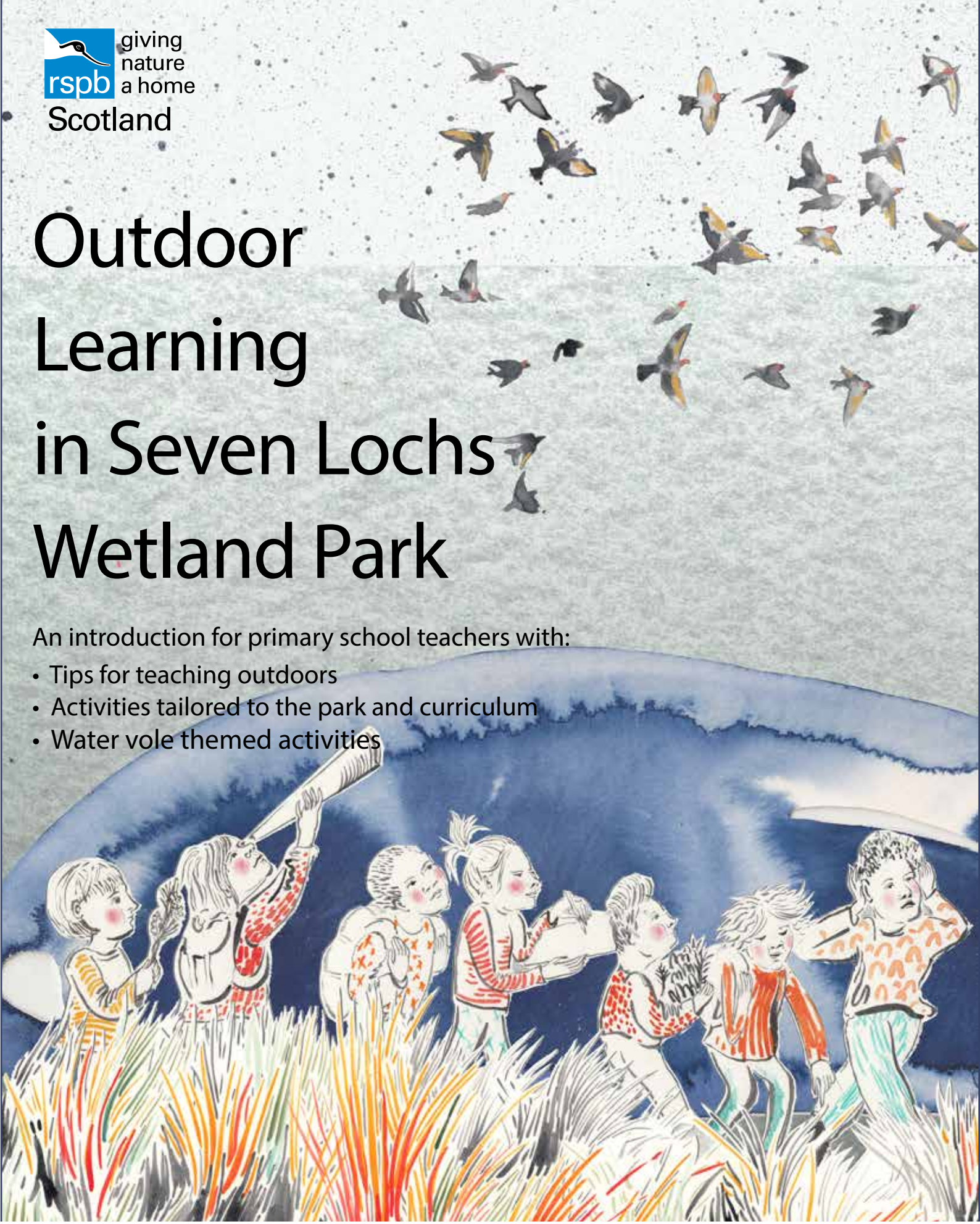
rspb giving nature a home
Scotland

Outdoor Learning in Seven Lochs Wetland Park

An introduction for primary school teachers with:

- Tips for teaching outdoors
- Activities tailored to the park and curriculum
- Water vole themed activities



Helping to give nature a home

SEVEN LOCHS wetland park

heritage lottery fund
LOTTERY FUNDED

Curriculum Centred Activities and Information

We hope that this pack will inspire and give you the confidence to take your class out into the Seven Lochs Wetland Park, to learn about the rich variety of nature found there and link it to your curriculum.

Included in the pack is:

- A booklet for teachers, providing background information about teaching outdoors and the Seven Lochs Wetland Park
- Sheets of activities and worksheets to take on trips or to photocopy

Each activity links into the **Curriculum for Excellence**.
Subject areas are noted at the top of each page.

Alongside the curriculum areas, you will find these different symbols to give you an idea of the subject matter and location for different activities.

Grass/ Woodlands

Wetlands

Water voles

Birds

Many of the topics here are also linked into the Wild Challenge, an online activities resource from the RSPB. Use these for homework or in–school activities. By completing all of these and recording your progress you can get a Gold Wild Challenge award.

www.rspb.org.uk/fun-and-learning/for-families/family-wild-challenge

Contents

1. Mini Beast Safari

2–4. Spot It! Mini Beasts

5. Pond Dipping

6. Pond Mini Beasts

7. Tree Spotting

8. Spot It! Trees and Shrubs

9. Tree Tales

10. How Old is this Tree?

11. Environmental Art

12. Twig and Leaf Rafts

13, 14. Descriptive Clay Creatures

15. Wild Walking

16. Journey Sticks

17. Bird Watch

18. Bird Hunt I.D Sheet

19. Make and Apple Bird Feeder

20. Wetland Birds

21. Bird Adaptations

22. Wetland Birds I.D Sheet

23. Habitat Mapping

24. How to Spot a Water vole

25, 26. Water vole Tracks and Signs

27, 28. Water vole Burrows

29, 30. Spotting tracks and signs in the park

31. Ecosystems and Food Chains in the Park

32. Predator or Prey?

33. Urban Adaptations for the Water voles in the Seven Lochs Wetland Park

34. Become a Water vole Ambassador

35, 36. Habitat Growth and Fragmentation

37, 38. Designing Your Community for Wildlife

39. Wildlife Debates

40. Test Your Water vole Knowledge: True or False?

Index of Links and Resources

http://outdoorclassroomday.org.uk/wp-content/uploads/sites/2/2017/05/1.-Green-corridors.pdf

https://www.johnmuirtrust.org/initiatives/missionexplore-john-muir - - more quick and simple activities

https://outdoorclassroomday.org.uk/resources/lesson-ideas/

http://creativestarlearning.co.uk/

https://www.tcv.org.uk/scotland/discover/seven-lochs

https://wildernessawareness.org/resources/kids

http://www.owlscotland.sbp-creative-dev.co.uk/

https://www.woodlandtrust.org.uk/naturedetectives/activities/

https://www.woodlandtrust.org.uk/get-involved/schools/curriculum-linked-resources/outdoor-learning-pack/

https://www.outdoor-learning.org/Good-Practice/Develop-your-Organisation/Outdoor-Learning-in-Schools/Teaching-Outdoors

https://www.nature.scot/learning-local-greenspace

Mini Beast Safari

The park and even your school grounds provide a home for hundreds of creatures, do you know what any of these are?

Sciences • Numeracy
Literacy

Duration: 30 Minutes Outdoor group activity

What you'll need:

- Magnifying glass
- Bug pots
- White tray
- ID sheet (see next page).

What to do:

1. Holding your white tray underneath,
shake branches of bushes and hedges, and beat tree branches with a stick
– Lift stones and pieces of wood
– Look into small cracks and corners

2. Identify using magnifying glass and ID Chart; if you'd like a closer look, catch it carefully in your bugpot.

3. Once you've identified it, put it back where you found it.

Top Tips:
If you're looking for more beasts you could try worm charming! Stand in a circle on grass and stamp on the ground. This can make worms rise to the surface as they mistake your stamping for rain!

This activity is also a Wild Challenge. Don't forget to tell us when you have completed the activity! To mark the activity as complete, upload a photo or a piece of writing talking about your experience to help earn your award.

Spot it! Minibeasts 1

Sue Kennedy (rspb-images.com)

Earwig

Guy Rogers (rspb-images.com)

Caterpillar

Sue Kennedy (rspb-images.com)

Aphids

Richard Revels (rspb-images.com)

Woodlouse

Sue Kennedy (rspb-images.com)

Earthworm

Richard Revels (rspb-images.com)

Snail

Tony Hamblin (rspb-images.com)

Spider

Sue Kennedy (rspb-images.com)

Slug

Nigel Cattlin (Alamy)

Harvestman

Richard Revels (rspb-images.com)

Centipede

John Eveson (FLPA)

Millipede

Stephen Dalton (naturepl.com)

Red spider mites*

*Image magnified x10

Seen something else? Draw it!

rspb giving nature a home

Spot it! Minibeasts 2

alslutsky (shutterstock.com)

Beetle

Jackie Cooper (rspb-images.com)

Ant

Nick Upton (rspb-images.com)

Wasp

Genevieve Leaper (rspb-images.com)

Hoverfly

Sue Kennedy (rspb-images.com)

Bumblebee

Grahame Madge (rspb-images.com)

Butterfly

David Norton (rspb-images.com)

Ladybird

Richard Revels (rspb-images.com)

Grasshopper

Nick Upton (rspb-images.com)

Shield bug

Sonja M (shutterstock.com)

Fly

Ray Kennedy (rspb-images.com)

Crane fly

Jeroen Stel (rspb-images.com)

Lacewing

Seen something else? Draw it!

rspb giving nature a home

Pond Dipping

Beneath the surface of the water of the lochs and wetlands, there's an unseen world of amazing wildlife ready to be discovered. Get dipping!

Sciences • Numeracy
Literacy

Set off on an expedition to Hogganfield, Cardowan Moss or any of the other lochs or small ponds in the park to get started·

Duration: 30 Minutes

Outdoor group activity

What you'll need:

- A net
- A tray to put the creatures you find in
- Spoons
- ID sheet (see next page) or a pond guide
- Camera or pens and paper

What to do:

1. Approach the water quietly and move slowly.
2. Look into the water first. This will give you a moment to see what it is you may catch, how it moves and where it hides! An adult should help you fill the tray with water.
3. Slowly lower your net into the water. Move it gently in a figure of eight motion several times.
4. Gently lift it out, and place inside out in the water in your tray.
5. Use Magnifying glass, bug pots and pond ID sheet to find out what animals you've caught.

Keep safe around water. Always have an adult present and be very careful as the edge of a pond can be slippery. For younger children you may want to prepare trays filled with pond water before hand.

When you've finished dipping, carefully pour the content of your tray back into the pond and give the tray and net a gentle rinse. If you're planning to use your net in a different pond, get a grown-up to soak it in fresh, hot water to avoid transferring any nasties from pond to pond.

This activity is also a Wild Challenge. Don't forget to tell us when you have completed the activity! To mark the activity as complete, upload a photo or a piece of writing talking about your experience to help earn your award.

Pond minibeasts

These animals come in a wide range of sizes but are all shown at the same size here so it's easy for you to see all their features.

No legs

Phantom midge larva

Water fleas
(cyclops and daphnia)

Pond snail

Tadpole

Leech

Bloodworm

6 legs

Water beetle larva

Backswimmer

Whirligig beetle

Water beetle

Pond skater

Lesser water boatman

4 legs

Newt

8 legs

Water spider

Water mite

More than 8 legs

Water louse

Freshwater shrimp

giving nature a home

Tree Spotting

The Seven Lochs Wetland Park has several planted woodland areas and larger isolated trees too. Here's a series of activities to look at trees from all angles!

Sciences • Numeracy
Literacy

Leaf Identification Drawings

Duration: 30 Minutes
Outdoor group activity

What you'll need:

• Paper, pencils and colours, leaves from either the ground or on trees, Leaf ID sheets (see next page)

What to do:

1. Divide up your sheet of paper into four.

2. Ask Students to look for four different kinds of leaf.

3. Draw and annotate the found leaves; pay close attention! What shape does it have? How big is it? What kind of edge does it have? What colour is it? Is it from a tree or a Shrub?

Share your drawings. Can you identify eachother's leaves?

You could collect all of your tree identification findings into one book.
Perhaps you could make a whole book for one tree!

Photo: Natasha Russell

Bark Rubbings

Duration: 20 - 30 Minutes
Outdoor activity

What you'll need:

• Paper, coloured crayons or pencils.

What to do:

1. Lay your piece of paper on the trunk of a tree and rub your crayon over it. Rub all over to create a textured drawing of the tree bark.

2. Share your findings; How does one tree species bark compare to anothers?

Trees and forests in different seasons

Duration: 10 minutes / ongoing Outdoor group activity

When you are out in the park, encourage children to think about the current season and discuss how things will change through the seasons:

Will there be more leaves? Are there flowers? Blossom? Can you see more branches? Can you see more or less wildlife? Do all of the trees change through the seasons? Can you find an evergreen tree and a deciduous tree? Can you see any fungi?

Spot it! Trees and shrubs

Michael Szabo (rspb-images.com)

Ash

Anastasiia Malinich (shutterstock.com)

Oak

alamy.com

Cherry

Laurie Campbell (rspb-images.com)

Horse chestnut

Marcus Webb (FLPA)

Sycamore

Olya Detty (shutterstock.com)

Pine

ImageBroker (FLPA)

Birch

dreamstime.com

Rowan

Andy Hay (rspb-images.com)

Holly

alamy.com

Hawthorn

Marcus Webb (FLPA)

Elder

ArgenLant (shutterstock.com)

Hazel

Seen something else? Draw it!

giving nature a home

Tree Tales

Activities to describe the characters of different trees around the park.

Every tree has a different story to tell. Not only does every species of tree have its own kind of leaf, bark, trunk or seeds, but each individual tree has its own unique features.

Sciences • Literacy
Expressive Arts

Wild Words: Write a group poem about a tree

Duration: 30 Minutes Outdoor group activity

What you'll need:

- Paper, pencils or pens, a tree!

What to do:

1. Working as a group, choose a tree and stand as close to it as you can. What can you see? Veins in the leaves? Bugs? The texture of bark? Note a few words to describe this.

2. Take a couple of steps back, what do you notice now? And then, walk all the way back until you can see the whole tree.

3. How does the tree change as you get closer to it? Share your words and piece them together into a poem that tells the full story of the tree.

4. You could base this activity around making a specific kind of poem, for instance a Haiku, a tree character limerick or an acrostick.

Spot the Difference

Duration: 10 minutes Outdoor group activity

What you'll need:

- Two trees side by side.

What to do:

A quick activity, good if children need a calm break:

1. Choose two trees close together and talk about their similarities and differences. Think about the bark, size, shape, number of branches, roots at the base or the trunk, different bugs, animals or lichens living on them.

2. You could develop this by drawing the two trees to illustrate these things.

How Old is This Tree?

Sciences • Literacy
Expressive Arts

There are a few clues to help us guess the age of trees, from height, to the number of tree rings, to the shape.

Guess the age of a tree

Duration: 30 Minutes Outdoor group activity

What you'll need:

- Paper, pencils or pens, measuring tape.

What to do:

1. Ask people to take a wild guess at the age of a tree.
On average a tree's girth grows 2.5cm a year. Tell students this, what is their estimate now?

2. Work in groups. Using a piece of string, measure the circumference of a tree trunk about 1 metre off the ground.

3. Divide this circumference by 2.5.This should give us a rough estimate of the trees age.

You could do this as a class or ask older children to work in small groups to measure trees and then share findings with the class: Who can find the oldest tree? What events in history has this tree been through? Maybe it was born before your grandparents!

Trunk ring drawings

Duration: 20 - 30 Minutes Indoor or Outdoor activity

What you'll need:

- Paper, coloured pencils or pens.

What to do:

Trees can also be dated through counting the number of rings in a piece of wood. You can sometimes do this if you find the stump of a cut down tree.

What signs tell you about the age of a human?
Can you make a concentric ring drawing that tells people how old you, your friends, or your family members are?

Did you know? The oldest known living thing in Europe is the Fortingall Yew tree in Perthshire.
It's thought to be up to 5000 years old!

Environmental Art

The Seven Lochs Wetland Park is full of colourful natural materials of all sorts of interesting shapes, textures and sizes. These are perfect for making outdoor artworks.

Expressive arts applied to any subject

Photo: Lucy Cunningham

This example illustrates the PH Scale through found materials in the park.

Illustrate any of the subjects that you have been teaching your class in school using found materials.

Duration: 30 minutes or more Outdoor group activity

What you'll need:

- Foraged materials, bags for collecting

What to do:

1. Choose a subject you want to make an artwork about; a character from a book or from history, or a scientific idea, or maybe one of the animals in the park.

2. Spend time foraging for materials (take care to avoid broken glass or dog poo!). You might look for things in a range of colours, long grass for hair or fur, twigs for building or sand for drawing.

3. Find a clear area and begin to make your artworks. You could ask small groups to focus on gathering materials and making different parts of the artwork too.

Woodland Monsters!

Duration: 30 minutes Outdoor group activity

What you'll need:

- Clay

What to do:

1. Give everybody a small lump of clay and ask them to work it into a ball shape.

2. Ask the children to look for an interesting shaped rock or tree trunk to attach their clay too; maybe there are nose or eye like shapes, or hairy moss!

3. Add to your clay monster by sticking all sorts of materials; small stones, grass, twigs, to create hair, teeth, eyes and more. Leave your monsters in the woods to be spotted by passers by!

Twig and Leaf Rafts

Expressive Arts Design

Make a Raft from Twigs and leaves to Sail on one of the Lochs!

Duration: 30 minutes plus Outdoor group activity

What you'll need:

• Twigs, natural biodegradable string, fallen leaves, scissors.

What to do:

1. Spend time searching for a bunch of straight-ish twigs, you want about 5 - 10 each, and they could be cut down or snapped into similar lengths.

2. Lay the sticks out side by side and using string, tie them together side by side, wrapping around each stick.

3. You can poke another stick or reed through the middle and attach a leaf in order to make a sail. You could place an acorn or other tiny objects on top to take them for a ride.

4. Gently place the raft onto the loch and see how far it goes! Make sure kids are supervised when putting their raft into the water as the loch banks can be slippery.

Descriptive Clay Creatures

Science • Maths
Art

This activity involves multiple skills and can incorporate several curriculum areas. It can stand alone or be extended to link with other activities such as pond dipping, minibeast hunting or drama.

This Activity works well after leading in with either Pond Dipping or a Mini Beast Safari.

Duration: 30 minutes Outdoor group activity

What you'll need:

- Clay
- Animal ID Sheet.

What to do:

1. Pupils find a partner and stand back to back.

2. Give one student a scientific key or ID sheet of anything you've studied; plants, mammals, birds, butterflies, bees. This should be at the scientific level they have studied to.

4. Give the other a ball of clay or plasticine.

5. The person with the key must choose an example and describe it in as much detail as possible to the other person while keeping the name of it a secret. Include all features and proportions (plus colour if you have several different colours of plasticine). The partner uses the clay to make an animal that fits the description.

6. After the describing is finished, they turn round and the one making the clay animal must guess which creature they have made.
Pupils discuss their process to each other.

7. Pupils switch, choose another creature, and repeat.

Follow Up: Make a story or a collage in the outdoors using these animals.

Photo: Lucy Cunningham

Wild Walking

Health
and
Wellbeing

As you're walking through the park remember to look high and low, near and far, and you'll notice all sorts!

Here are a few questions to bring up while walking. Try to encourage people to experience their surroundings in multiple ways, using multiple senses.

Duration: 10 minutes or more Outdoor activities

Questions or ideas in any order:

- What can you see above you? Who lives up there? What does the sky look like today?
- How does the ground change beneath you? Is there anything living on the ground? Is it wet or dry? Hard or soft?
- Stay very quiet and walk softly for a few minutes. What can you hear? Can you hear the city or cars? Can you hear the wind through the trees? Can you hear any birds? Keep an ear out for all of the different bird noises, can you copy them ?
- What can you smell as you walk? Does the park smell different to the city? Can you smell grass? Wood? Flowers? The smells in the park change through the seasons.
- What can you see, smell or hear that is specific to the seasons?
- Can you spot different animals' foods? Maybe there are nuts that squirrels eat, grass that voles eat.
- Have a moment of quiet walking where there is no speaking and you walk with quiet footsteps. Explain that you can hear more, and that animals are less frightened to come out when it is quiet. Describe 'stalking' toe first walking and test this vs. stamping.
- Are there any other animals whose movement and walking you can copy?

This activity is also a Wild Challenge. Don't forget to tell us when you have completed the activity! To mark the activity as complete, upload a photo or a piece of writing talking about your experience to help earn your award.

Wild Challenge
Experience nature

Journey Sticks

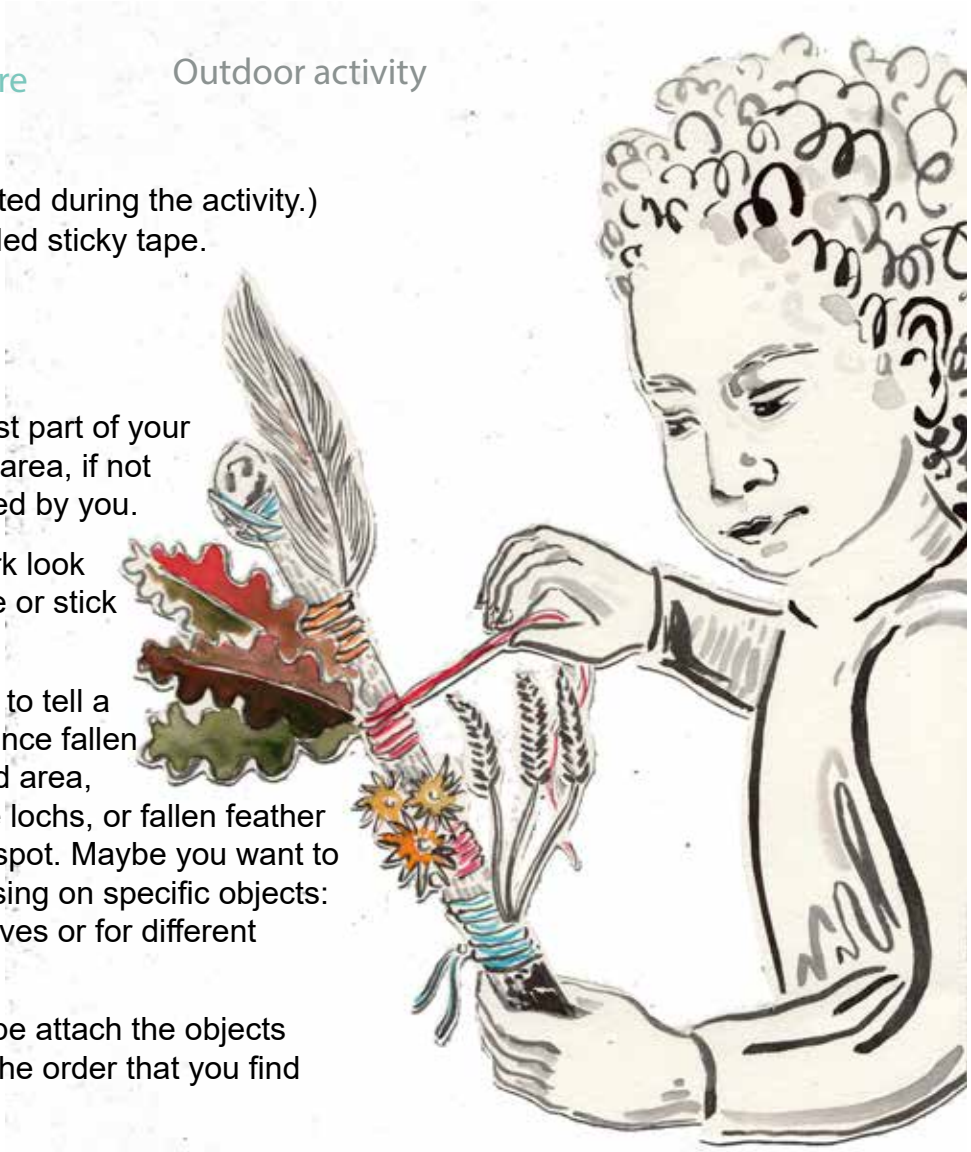
Expressive Arts

Journey Sticks were made in Native American Culture to help people to understand and remember the route of a journey and to tell the story of it.

Make your own Journey Sticks during a walk through the park and use these as a way to share or write stories on your return to the classroom.

Duration: 20 minutes or more

Outdoor activity



What you'll need:

- Sticks (These can be collected during the activity.)
- Coloured Wool or double sided sticky tape.
- Scissors.

What to do:

1. Finding sticks can be the first part of your activity if you are in a wooded area, if not these might have to be provided by you.

2. As you walk through the park look out for things to pick up and tie or stick to your stick.

Focus on objects that will help to tell a story of your journey. For instance fallen leaves may describe a wooded area, dried reeds might describe the lochs, or fallen feather may remind you of a bird you spot. Maybe you want to theme your stick through focusing on specific objects: A journey stick for different leaves or for different kinds of grass or flower.

3. Using the string or sticky tape attach the objects to your stick, bottom to top in the order that you find them.

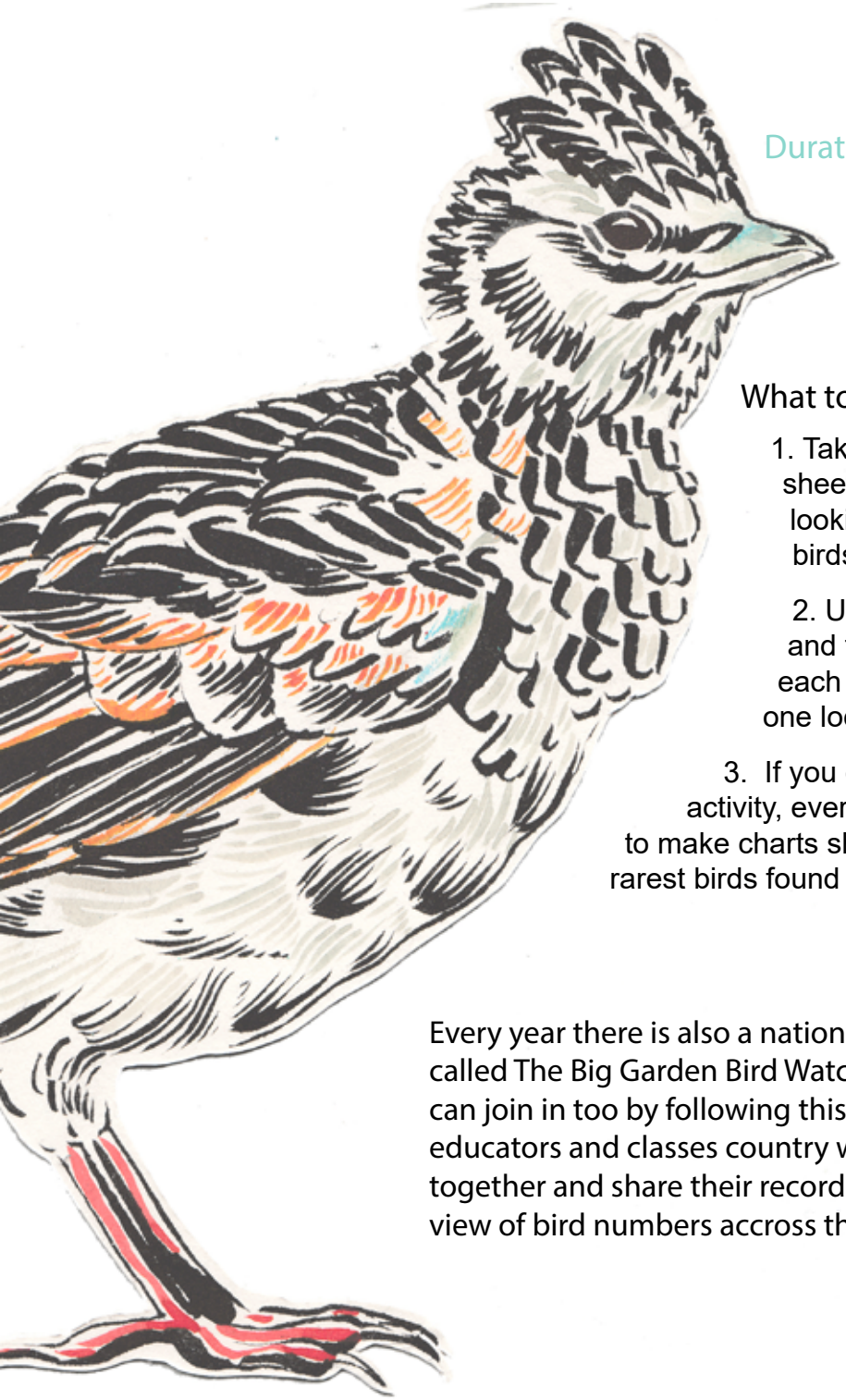
4. On returning from your walk, can you use your stick to tell or write a story about your journey?

Bird Watch!

Turn your class into conservation scientists and help us track the ups and downs of birds in your area. This involves taking an hour to sit, watch and count bird numbers.

Through recording your findings you can contribute to the survey and look at the data collected accross the country!

Health and Wellbeing
Science • Numeracy



Duration: 1 hour Outdoor activity

What you'll need:

- Binoculars (optional)
- Bird ID Sheet (found on the back of this card).
- Pencil and Paper

What to do:

1. Take your binoculars and ID sheets out into the park and get looking! Sit quietly and watch for birds.

2. Using your ID sheet identify and them count the numbers of each bird species that you see in one location over a period of time.

3. If you do this as a homework activity, everyone can share their findings to make charts showing the most common or rarest birds found near you.

Every year there is also a nationwide event called The Big Garden Bird Watch. You can join in too by following this link. Here, educators and classes country wide bird watch together and share their records to give a big view of bird numbers accross the UK.

Bird Hunt

How many birds can you find?

You will recognise me from my bright red chest!

Robin

I have a black and white head.

Great tit

I look a bit like a great tit but I am smaller with a blue head!

Blue Tit

I am a very small, quick bird with a black head and a white neck.

Coal Tit

I look a bit like a black-bird but my tail is shorter and I have more shiny colours in my feathers.

Starling

As a grown up boy I am black with a yellow beak, funnily enough though girls are brown!

Blackbird

I have a long tail and black and white feathers.

Magpie

A larger black bird that can be very clever!

Carrion Crow

I have a bright red face and yellow patches on my wing.

Gold finch

As a grown up boy I have a reddish/brown chest and a grey head.

Chaffinch

I am a little brown/ grey bird with a short broad beak.

House Sparrow

I have a bright red chest and cheeks!

Bullfinch

See me dipping myself into the river

Dipper

As a grown up boy have a green head, though the girls are brown!

Mallard Duck

Look out for me around the pond I have yellow legs with wide feet!

Moorhen

Look out for me around the pond I am very tall!

Grey Heron

Tiny brown bird with a light stripe over my eye and my tail held in the air.

Wren

You might get a glimpse of me flying along the river

Kingfisher

The largest and commonest Pigeon in the UK and makes a cooing sound

Woodpigeon

I am bigger than a herring gull and am commonly found in the city

Lesser Black Backed Gull

Make an Apple Bird Feeder

Science

Attract more birds to your school or garden with this apple bird feeder.

Birds of Prey eat other small mammals, and many birds like to eat small insects, worms and bugs.

Many birds also forage for and eat seeds, berries and fruit. In winter when vegetation is scarce and particularly when there's snow, bird food can be scarce!

Duration: 20 minutes Indoor activity

What you'll need:

- An apple each
- A corer
- A piece of string
- Sunflower seeds
- Sticks

What to do:

1. Carefully remove the core from the apple, preferably by using a corer. You may wish to prepare this beforehand or be careful to supervise coring.

2. Push the sunflower seeds into the top half of the apple for the birds to eat.

3. Make perches for your birds by pushing one stick into either side of the apple, near the bottom.

4. Tie the string around the last stick and thread it through the core of the apple. The stick helps to hold the string in place.

5. Tie your apple bird feeder onto the branch of a tree and wait for the birds!

This activity is also a Wild Challenge. Don't forget to tell us when you have completed the activity! To mark the activity as complete, upload a photo or a piece of writing talking about your experience to help earn your award.

Wild Challenge
Experience nature

Wetland Birds in the Seven Lochs Wetland Park

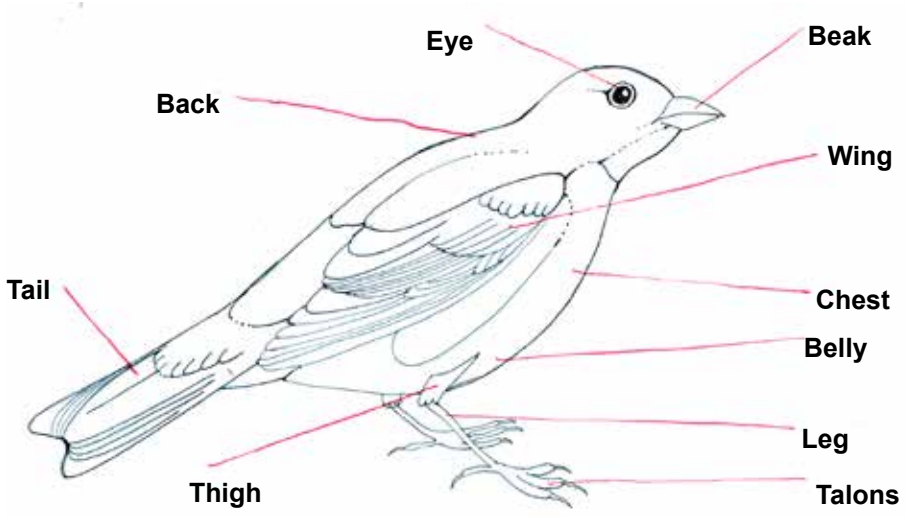
Sciences • Literacy
Expressive Arts

The Seven Lochs Park is home to some birds that you might not find in your playground. These species are reliant on the specialised habitats found in the park, for instance the wetlands or woodlands.

Many of these birds are seasonal. They migrate to other locations or countries in the Summer or Winter in order to find suitable climates, shelter and food.

Identifying the different parts of a bird

The diagram below shows key words for different body parts that all birds share.



Here are some questions to help to describe each of these body parts:

- How big is the bird?
- What colour are its legs?
- What colour are its feathers, back and belly?
- What shape and colour is its beak?
- Does it have any textured feathers on its head or tail?

Find the translations to some of these key words in the language that you are currently learning. Practice your languages when out in the park or by annotating your bird drawings.

Seven Lochs
Bird Adaptations

Sciences
Expressive Arts

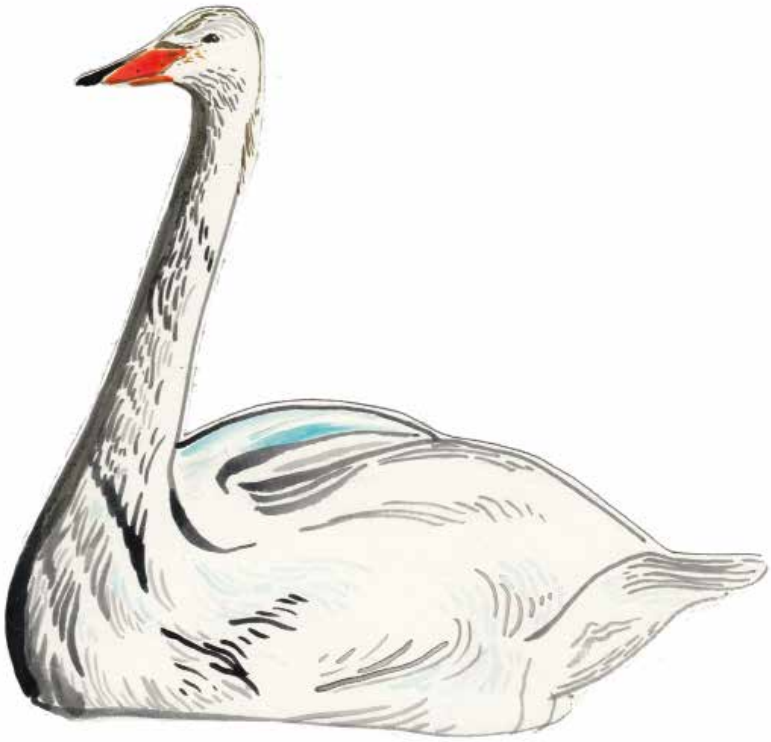
Many of the unique features of different bird species are adaptations that help them to survive in specific habitats.
For instance some long legs may help them to wade in water or colourful wings may help to camouflage or decorate them.

Examples of Seven Lochs birds with adaptations:

Swan: Webbed feet, big wings, long neck

Heron: Pointed beak for catching fish, long legs for standing in water, pale grey to blend in with water.

Buzzard / osprey: Sharp talons and hooked beak for catching prey, broad wings for gliding, really good eyesight for spotting prey from afar.



A link to more bird adaptation information:
https://www.rspb.org.uk/birds-and-wildlife/natures-home-magazine/birds-and-wildlife-articles/how-do-birds-survive/

Design your own super bird

Duration: 30 minutes to an hour depending on approach

Indoor / Outdoor

What you'll need:

- Pencils, colours and paper.
- Or you can do this activity outdoors using found materials to design a big bird on the ground. (See the Environmental Art page.)

What to do:

1. Ask children to draw and write about an imaginary bird using all of the key body parts but being inventive with them to imagine new adaptations.

• What has your bird adapted to do and how do its body parts help it to do this? Maybe your bird can swim, maybe it is camouflaged in a rainbow, maybe it can fly to the moon!

This activity could also be done outside using foraged materials outdoors.
See the Environmental Art page for more tips!

Spot It!
Wetland Birds

Black-headed gull

Canada goose

Coot

Oystercatcher

Goldeneye

Goosander

Great crested grebe

Moorhen

Grey heron

Kingfisher

Lapwing

Mallard

Pink-footed goose

Teal

Mute swan

Habitat Mapping

These are a few of the habitat types that you can find across the park. Each are home to a number of different plants and animals.

Sciences • Literacy
Expressive Arts

Woodlands

Urban

Grasslands

Wetlands

Lochs

Photo: Natasha Russell

Habitat Mapping

Duration: 30 minutes Indoor or Outdoor activity

Use the map to go on a walk through the park: Can you draw on the different types of habitat you see and describe their differences? Can you see any animals or plants that are specific to each habitat?

As you walk through the park, make a note of your route. What kind of path are you on ? Are there any bends and turns? Are there any specific landmarks? What are the habitats surrounding you? You may want to draw these on as you go and pause to take time to do so.

Use different patterns to represent different habitats, then make a key using symbols in those patterns to help others identify them.

This activity is also a Wild Challenge. Don't forget to tell us when you have completed the activity! To mark the activity as complete, upload a photo or a piece of writing talking about your experience to help earn your award.

How to spot a Grassland Water Vole

Sciences
Literacy

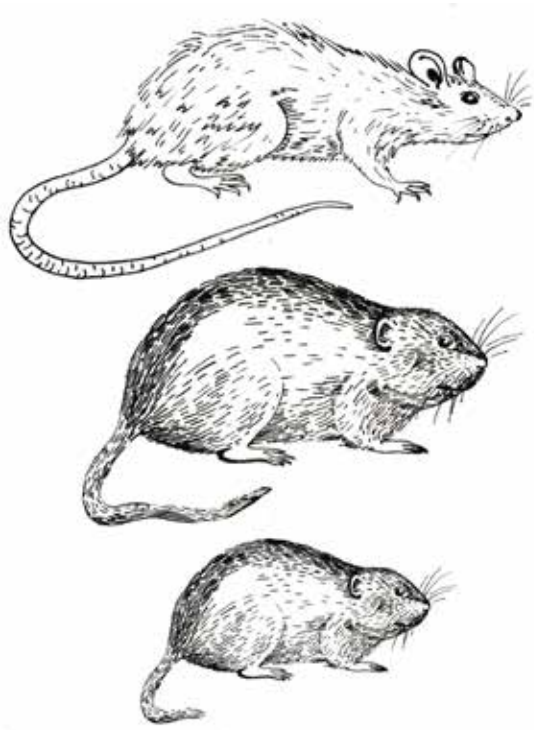
The protected population of grassland water voles living in and around the Seven Lochs Wetland Park are a unique population because of their unusual behaviour and the large size of the population. It is the highest density population of water voles living in the UK!

These voles are unique because they have adapted to live without water and as such are more commonly found in parks, road verges!

Unfortuately this often means that people mistake them for rats and call pest control.

Photo: Laurie Campbell

Here are a few tips to help you spot the difference between rats, field voles and water voles.



Brown Rat
Long, scaley tail
Pointed nose
Big Ears
20 – 30cm Long (including tail)
Short, brown, scruffy fur

Water vole
Furry tail, about 60% the length of its body.
Short, rounded nose
Small, almost hidden ears
Black or brown short silky hair
12 – 20cm long including tail.

Field vole
Short furry tail, about 30% the length of its body.
Short, rounded nose
Small, almost hidden ears
Chestnut brown short silky hair
9 –12cm long including tail.

Identification Drawing:

Duration: 30 minutes An Indoor Activity

Using these descriptions draw a water vole and a rat and annotate their features.
You could also write a big bold sign to say, ‘These are Water voles, not rats!’

Grassland Water Vole Tracks and Signs

Sciences

Most water voles burrow into the side of riverbanks. Others, like those living in Glasgow, burrow into grasslands to make their nests. Here are tracks and signs that will help you to spot areas where the grassland water voles live.

Burrow Entrance

- 4 – 8cm long
- Wider than tall
- Well-defined opening when in use
- Clipped grass around entrance (lawn)
- Identical in riparian and grassland populations

Tumulus

- Flattened soil mounds smaller than mole hills
- Usually in clusters with edges touching one another
- Most common amongst European vole populations

Droppings

- Each 8 - 12mm long
- Circular diameter, blunt ends
- Green when fresh
- Dark brown when dry
- Identical in water-based and grassland water vole populations

Feeding Station

- A collection of foraged vegetation remains
- Edges all cut at 45 degree angles
- Cuts often found at base of grass tussocks

Photos: Robyn Stewart

Water Vole Tracks and Signs continued

Blocked Burrow Entrance
- Burrow entrance blocked by a mixture of soil, shredded grass and moss
- In wetland sites this is done to avoid flooding when river or water levels are high
- In grassland sites this is done when there is high rainfall or the animals are disturbed

Latrine
- Piles of droppings 'drummed' and scent marked by females
- This occurs during breeding season
- It marks the territory boundary for females

Expelled Nest Material
- A mixture of shredded grasses pushed out of the nest when cleaning and rebuilding the nest
- Common after breeding season and in preparation for winter

Photos: Robyn Stewart

Mapping Water Vole Tracks and Signs in Your Area

Do You Know if any Water voles live near your school? Go to a known Water vole spot to check for their tracks and signs and map them out.

Duration: 1 hour Outdoor Activity

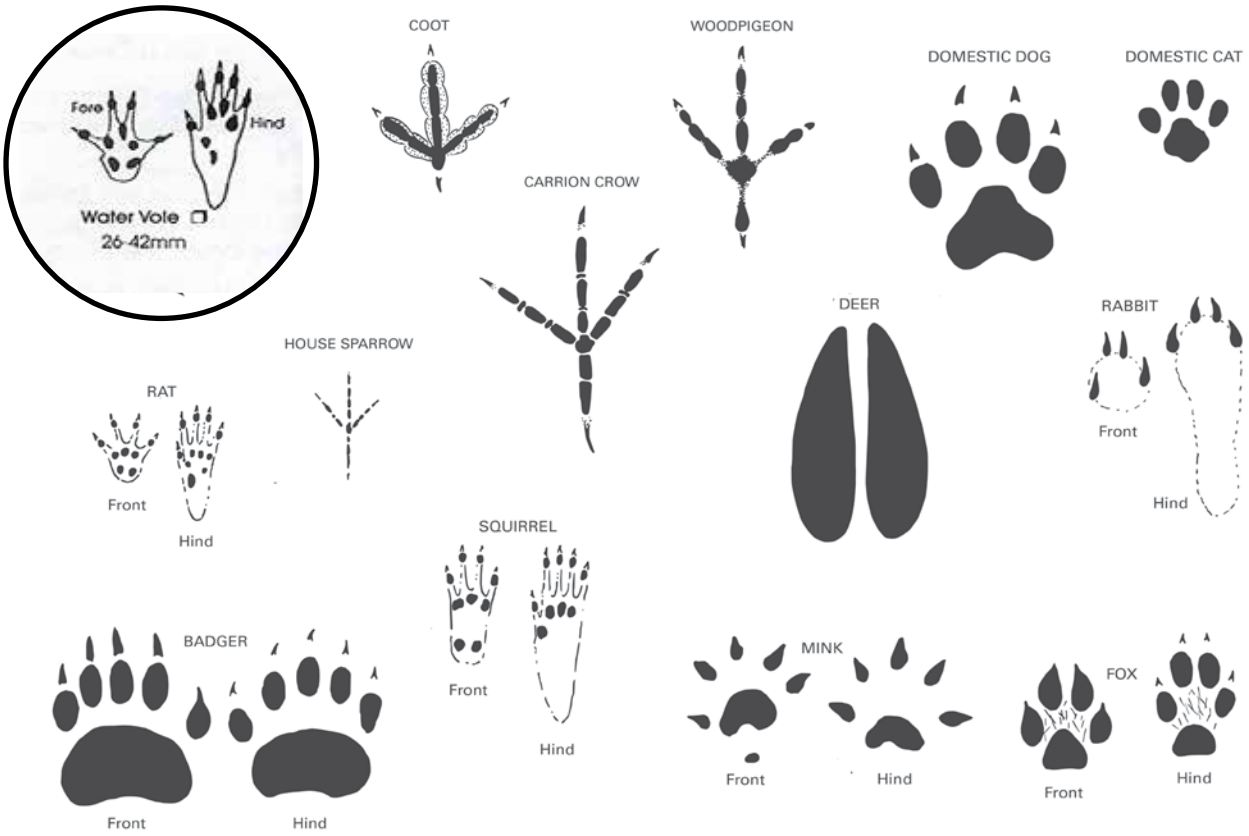
What you'll need:
- Black and white printed maps of a small area that water voles are living.
- Coloured pens or pencils.

What to do:
1. Choose different colours or symbols to signify different water vole tracks and signs. You may want to make a key to help to remember this.
2. Take your map on a walk and as you find these signs mark them on according to the key.

Spotting Signs and Tracks

Health and Wellbeing Sciences

The park is full of other animals' tracks and signs too.
These can give us clues about where they live or what they are doing. These signs may take the form of footprints, droppings, half eaten plants or nests.
Can you spot any of these tracks and signs as you walk around the park?



Make your own footprint tracker

Duration: 30 minutes An indoor group or homework activity

You will need:

- Baking tray
- Small plank or long ruler
- Fine, damp sand
- Small, shallow dish
- Dog or cat food

What to do:

1. Fill the tray with sand and smooth the surface with the edge of the plank or ruler.

2. Put a little pet food in the dish and stick it in the middle of the tray.

3. Leave your tracker out overnight and see the next day if anything has left its footprints there. Throw the pet food away in the morning, before it goes bad.

This activity is also a Wild Challenge. Don't forget to tell us when you have completed the activity! To mark the activity as complete, upload a photo or a piece of writing talking about your experience to help earn your award.

Spot it! Tracks and signs

Andy Hay (rspb-images.com)

Spider's web

David Norton (rspb-images.com)

Nibbled leaves and nuts

Nick Upton (rspb-images.com)

Mole hills

Niall Benvie (rspb-images.com)

Feather

Laurie Campbell (rspb-images.com)

Animal poo

Ray Kennedy (rspb-images.com)

Slime

Laurie Campbell (rspb-images.com)

Squirrel's drey

Oliver Smart (rspb-images.com)

Bird's nest

Mark Hamblin (rspb-images.com)

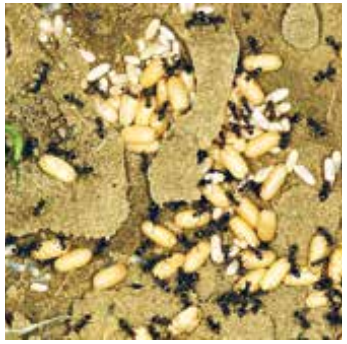
Hole in tree

Antipov (istockphoto.com)

Beetle tracks

Marcus Webb (FLPA)

Rabbit/badger hole



Richard Revels (rspb-images.com)

Ant nest

Seen something else? Draw it!

rspb giving nature a home

Ecosystems and Food Chains

Sciences

An Ecosystem is a community of living and non-living things that interact together within a habitat.

Animals and plants living within the Seven Lochs Wetland Park park rely on connections to other things in the park in order to live.

Drawing Ecosystem Connections

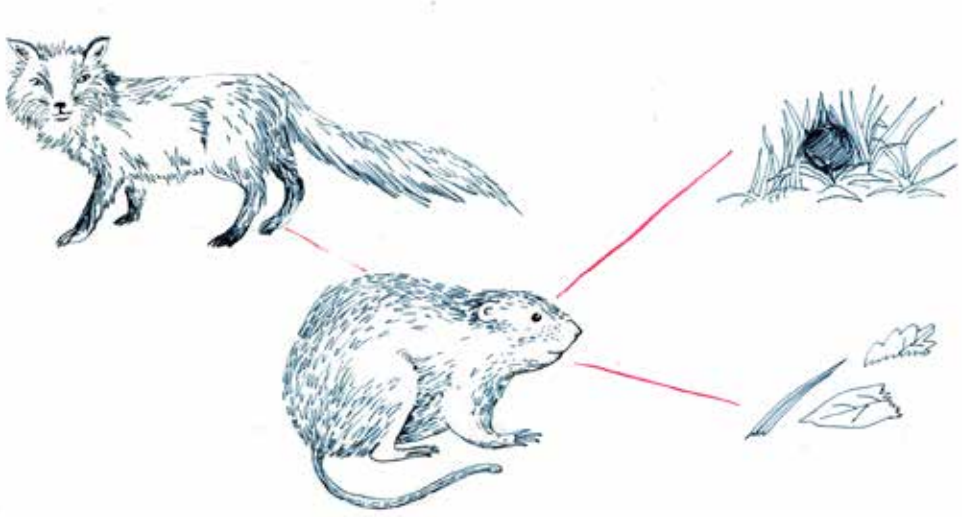
Duration: 30 minutes An indoor activity

What to do:

1. Choose an animal in the park, for example the water vole. Draw it in the centre of a piece of paper.

2. Next draw and describe all of the things in the ecosystem that link to your chosen species.

Make sure to include its predators, its food, its habitat and also inorganic elements like water or rocks. You may also be able to link yourself into the drawing!
What is its food? Where is its habitat? What is its prey? What it its shelter?



Every living thing needs energy to survive. For humans and animals, this comes in the form of food that we eat every day. For plants, food energy comes in the form of sunlight, water and soil minerals.

A food web shows how living things eat one another in the ecosystem and how the energy from the sun gets passed from animal to larger animal.

Predator or Prey?

Health and Wellbeing
Sciences
Religious and Moral
Studies

Water voles are herbivores and not predators. However they do have a number of predators. In the Seven Lochs, predators include the fox and the American mink.

This 'predator or prey' game can be used to illustrate the effect of a predator on prey in any combination.

In this example we have water voles and American mink.
In addition, this game shows what can happen when habitat is lost through development; how animals must expend more energy and ultimately eat less food/drink less water/have less places to live than before, thus population decline.

Duration: Minimum 20 minutes Outdoor group activity

What to do:

1. Ask them all to imagine they are pigeons living in the park. Do impressions, loosen up.
2. What do they need to live? (water food, shelter, other pigeons)
3. Ask for volunteers. If you have enough adults, it's good to them to volunteer so all kids get to run.
4. Each volunteer is a "corner": one person as food, one as water, one as shelter, one as family.
5. Ask everyone to practice being water voles (showing their teeth and burrowing with their hands.)
6. Get them to run around collecting (getting a high five) from each of the four corners.
8. Tell the kids you've just built a new housing estate/shopping centre/factory (whatever's topical) in the middle of their territory. They now need to go much further for food. Move all corners further apart, to demonstrate how much harder with fragmented habitats, and repeat run.
10. Explain it's too easy, and they need a challenge. Ask what would make it harder.
11. When they mention predator, introduce the American mink. Use a cuddly toy or laminated picture; explain why it is fearsome.
12. Ask for volunteers to be American mink who can catch them as they run around. People are safe whilst in the shelter.
13. Replay the game with a predator, see how it changes how many get caught.

A Day in the Life of a Grassland Water Vole

Sciences • Literacy
Expressive Arts

Duration: Minimum 20 minutes

Outdoor group activity

What to do:

Work as a group to imagine the world from a vole's point of view. Maybe you need to lie down on the ground to see how things look from down there! Can you imagine what it would be like to spend your days foraging in the park? Maybe you spot a group of students, what do you think of them? Maybe you can hear the roar of the motorway, or maybe you spot a fox!

You could also try this Urban Development game, found via this link:

www.outdoorclassroomday.org.uk/wp-content/uploads/sites/2/2017/05/1.-Green-corridors.pdf

Become a Water Vole Ambassador

Sciences • Literacy
Technologies

One of the best ways to help to conserve nature is to tell other people about how important it is to do so.
Let them know how amazing the nature living around us is!

A few ideas to get you started:

Duration: Up to 1 Hour Indoor Activities

Design a poster for the voles.

Design a poster by hand or digitally to tell other people about the grassland Water voles living near you. They should be bright and bold with an important simple message. Can you encourage people to protect the voles through one bold catchy phrase? Tell people that they're not vermin! You could stick these posters up in your school, a local shop or online.

Design a leaflet to tell people how to spot the voles and what they should do if they find one.

Write and illustrate an article for a newspaper about the strange and protected population of Water voles found in Glasgow.

Design a badge to print and colour in and then to give to your friends and family.

Make a group presentation to give during assembly or to a local business.

Points to include in your writing and designing:

- What are the main threats to voles?
- Why should they be protected?
- What can be done to protect them?
- How is the Water vole population in Glasgow unique?
- How are Water voles different from other rodents?

Habitat Loss and Fragmentation

Health and Wellbeing
Sciences
Religious and Moral
Studies

Habitat loss happens when land use changes, e.g grassland is ploighed up and arable crops planted, or houses are built on natural habitat.
This makes it much more difficult for animals to move through an area in order to access the resources. Sometimes this can mean that there aren't enough resources for a population to survive.

In the Seven Lochs Wetland Park, water voles are found in both wetland and grassland habitats. One aim of the Glasgow Water Vole Project is to protect the key sites with large water vole populations and to retain/create habitat corridors between all sites, so that no animals become isolated.

Green corridors, Habitat Growth and Fragmentation Game

Duration: All about to 1 Hour Outdoor group activity

You will need:

• Tarpaulins, towels, rope or skipping rope

What to do:

1. Lay out a group of large tarps, towels, or mark out loops on the floor with string or skipping ropes. Some patches should act as corridors between sections. These will each be habitats.

2. Shout 'Go'! and the students roam around the patches pretending to find food, shelter, mates, etc. Explain that each patch on the floor is a habitat and that each patch can only hold five people.

3. When You should 'Habitat!' students are given three seconds to run to their habitat. If they can't find a habitat to stand on they perish!

(Continued on the next page.)

Habitat Loss and Fragmentation continued

4. As students walk around the habitats begin to fold sheets, remove hoops, or move corridors to decrease the size of the available habitats

This time when you shout ‘Habitat’ What happens? Are people squashed together? Is it possible to move from one patch to another? Explain that this process reflects Habitat Fragmentation.

Continue playing until the habitats are very small. Apart from the space needed to fit, why can’t you have lots of animals living in a small habitat?
Is there enough food? Water? Shelter? Enough of a variety of animals to find a mate?
How do the corridors between habitats help animals?

Afterwards, discuss what kind of action can be taken to rehabilitate habitats. This could involve revegetation, limiting building developments, being aware of global warming. Are there any activities that you could do at home or school to help with this?

Designing Your Community for Wildlife

Sciences • Design
Religious and Moral Studies

The park is undergoing constant changes to make the environment more suitable for wildlife and to enable people to access the area more easily.

Here are examples of green adaptations:

- Making tunnels under roads (to allow hedgehogs and animals to cross)
- Green corridors: Making long connective stretches of natural habitat to allow animals to move from one area to another.
- Green roofs, bird boxes, planting trees, shrubs with berries, hedges, swift bricks, wildflower meadows, growing spaces, ponds, streams, trees.

Planning and Designing For Wildlife Activity

This session looks at how the children can design their area for people and wildlife.
Children are asked to become landscape architects, town planners and ecologists for the session and think about those job roles in relation to designing their local area.

Duration: 2 - 3 Hours Indoor group activity

What you'll need:

- A3 Arial maps of school grounds and local area usually taking up to 2 miles from the school
- Coloured pens and pencils.
- White paper to create a larger map on the ground for building on.
- Cardboard, sticky tape and glue
- Nature magazines for images or images of trees and hedges, green roofs etc.
- Tissue paper, coloured paper for making green spaces.
- Images of green and blue infrastructure: Hedges, trees, green roofs, meadows, ponds, streams, allotments, rain gardens,

Designing for Wildlife continued

What to do:

1. Split the children into groups around tables with aerial A3 plans of your school grounds and local area.

2. Ask the children to mark on it good or bad areas for wildlife.

3. Draw a large outline of the school and key features for the map like main road or local park on a large piece of paper on the ground. This needs to be big enough to take in the surrounding area and get the children to be able to think about people and species movement. It also needs to be big enough to build on.

4. Ask the children to think about the grey infrastructure ie. school building and grounds, tower blocks, houses, terraces, shops, factories, roads, car parks etc.

5. Ask the children in their groups to build these features to go on to the map. You might want to split the children into the North, South, West and East of your map.

6. Ask the children to create the green spaces from the maps ie. trees, tree lined avenues, hedges, parks, meadows, grass areas.

7. Talk about fragmentation. How is their area divided up for green spaces and roads? How could you design this area better for water voles? Talk about the barriers: are there any roads or buildings that are restricting the water voles' movement?

8. Get the children to build on green infrastructure to enhance their area. Create green and blue links for the water voles to move around. This could be more growing spaces, parks, meadows or streams.

9. You can now maybe take some of these ideas and bring them to life in your school grounds or local area. Send your ideas and photos in to the RSPB.

Wildlife Debates

Sciences • Design
Religious and Moral Studies

When people are planning to develop areas and to conserve wildlife there are many possible ways to do things. This creates topics that are hotly debated between conservationists, developers, politicians and members of the public.

Test out your debating skills through thinking about some of these park and vole related questions. Ask people to imagine themsleves in different people's positions and not only to voice their own opinions!

Topics to debate:

- Should we get rid of the vole predators? Think about the impact of this on the full food chain and the fact that the predators are also interesting animals.
- Should all building developments be stopped? Think about development's impact on wildlife and habitat fragmentation, but also the need for humans to live and to travel easily .
- Should we move the city dwelling voles back to the river? Think about how well the voles are doing in the long grass habitat (highest density of water voles in the UK).

Here are a few ways that you could structure your debate:

Quick and active debate:

Duration: About 10 minutes Outdoor group activity

Make one area of the field / classroom a ' YES' area and one area a 'NO' Area. Shout out the debating points one at a time and with each, ask children to run to whichever area they think is right. After each question take time to question why people think what they do, and go over alternative opinions.

Group debating activity for older children:

Duration: Up to 1 hour Outdoor or Indoor group activity

1. Divide your class up into two halves. Focusing on different topics, ask people to debate for and against the topics and then to switch sides and debate for the opposite opinion.
2. Give them some time to talk together and to come up with five points in support of their side's opinion.
3. Bring the class together and take it in turns to share and argue your points
4. At the end of the debate, ask the whole of the class to vote on their opinion as individuals.

You could follow this up by asking people to write a short article to debate one of the topics that they feel strongly about.

Test Your Vole Knowledge

Sciences • Design
Religious and Moral Studies

A set of True or False questions to test your vole knowledge!

This can be played outside or inside as an active game by dividing up an area into a True side and False side. Shout out these statements and ask students to run to the true or false side or area to give their answer.

- Grassland water voles live in trees.
- (F) They live underground
- Grassland water voles sleep in a nest.
- (T) Inside the burrow is a nest as well as tunnels and food storage areas.
- Urban Development is always bad for nature.
- (F) When people develop plans considering the wildlife they can help to conserve the lives of animals.
- Voles are herbivores
- (T) The vole eats foraged grasses.
- There are two kinds of water vole in the wetlands park
- The grassland water vole is the largest British vole
- (T) It is 14 - 22cm in length, compared to field voles
- Grassland voles are grey brown with hairless tails.
- (F) These sound more like brown rats. Grassland
- Voles are predators.
- (F) They don't eat other animals. They are preyed on by predators like the American mink and fox though.

- Grassland water voles can have up to six young at a time.
- (T)
- Water voles always live near water.
- (F) Usually, yes, however Glasgow water voles have adapted to live far from water!
- Grassland water voles are nocturnal
- (F)
- You are allowed to catch water voles to keep as pets
- (F) Water voles are a protected species which means that it is illegal to kill, catch or even pick them up!
- Grassland water voles have six legs.
- (F) They have four! Only insects have six legs.