

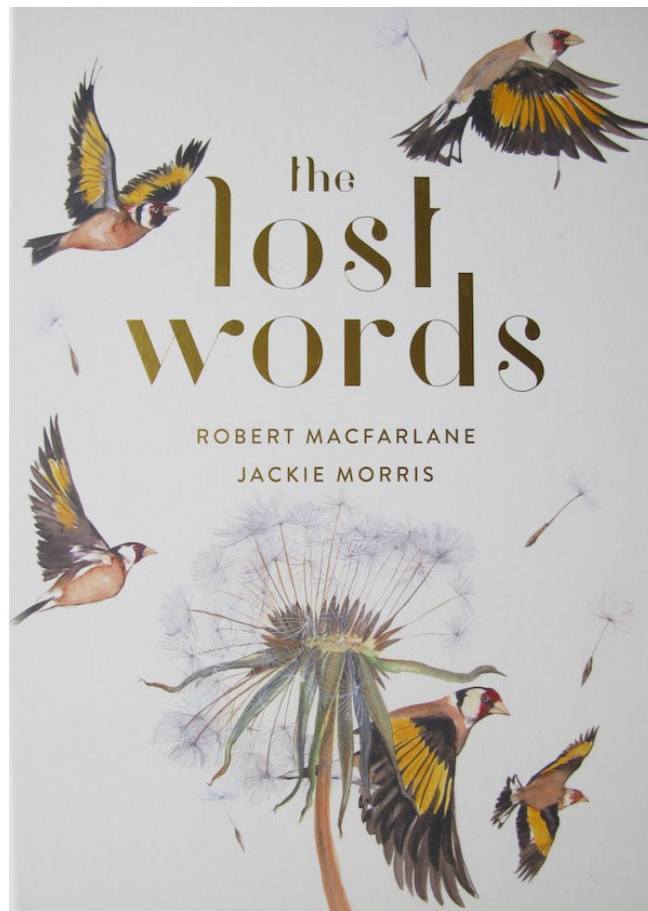
The Lost Words

Educational Resource Booklet

Dams to Darnley Countryside Ranger Service

Whitelee Countryside Ranger Service

Rouken Glen Park Activity Ranger Service



Printing

This booklet has been produced without the use of images and other 'ink heavy' formatting but nonetheless, please consider the environment and only print the pages you need.

Introduction

This booklet is intended to compliment your copy of *The Lost Words* by Robert Macfarlane and Jackie Morris that has been provided by the John Muir Trust. The three Countryside Ranger Services based within East Renfrewshire have done some initial work and looked at which species from the book are found in each site so that if you wish to study any or all of the plants or animals in the book, you can plan your trip(s) effectively.

Inside you will find a mix of ideas and suggestions for topics and activities but they aren't by any means exhaustive, and the activities can be adapted to suit your class/pupils needs. The suggestions and educational activities are only provided as a starting point.

If you have any specific ideas or requirements for your school/pupils and would like some extra help, so that you can make full use of this amazing book, then please contact the Ranger Service(s) as we're happy to help.

Services we offer

The three Ranger Services at Dams to Darnley Country Park, Whitelee Windfarm and Rouken Glen Park offer a variety of activities and educational sessions linked to the Curriculum for Excellence, and free to schools and groups in East Renfrewshire. Find below a list of what we can offer at our sites but please also note that we are able to outreach into schools and can devise bespoke activities via consultation:

- Field studies (flora and fauna)
- Pond dipping
- Outreach to schools
- Habitat advice and creation
- Wildlife advice
- STEM workshops
- Bespoke activities

Address & Contact details



Dams To Darnley Country Park

The country park sits in the greenspace separating Barrhead, Darnley and Newton Mearns. It includes the Barrhead dams, as well as Darnley Mill and Waulkmill Glen.

Dams To Darnley Countryside Ranger Service (D2DCRS)

Contact: Joe Connelly

Office: c/o East Renfrewshire Council, Thornliebank Depot, 190 Carnwadric Road, Thornliebank, East Renfrewshire, G46 8HT

Tel: 0141 577 4053

Email: d2d@eastrenfrewshire.gov.uk

Web: www.damstodarnley.org



Whitelee Windfarm

At just over 30 miles square Whitelee windfarm covers parts of East Renfrewshire, South Lanarkshire and East Ayrshire and sits on the Eaglesham moors. Whitelee Visitor Centre, next to which the Countryside Rangers are based is found on (B764) Moor Road, Eaglesham.

Whitelee Countryside Ranger Service (WCRS)

Contact: Rennie Mason, Kate Elliott, Kathleen McMillan

Office: Ranger Cabin, c/o Whitelee Visitor Centre, Moor Road, Eaglesham, G76 0QQ

Tel: 0141 614 0962

Email: whitelee-crs@eastrenfrewshire.gov.uk

Website: www.eastrenfrewshire.gov.uk/whitelee



Rouken Glen Park

Located in Giffnock the park is a well used community asset that welcomes huge numbers of visitors and is found on Rouken Glen Road, Giffnock.

Rouken Glen Activity Ranger

Contact: Katy McGregor

Office: Pavilion Visitor Centre, Rouken Glen Road, Giffnock, East Renfrewshire, G46 7UG

Tel: 0141 638 4121

Email: roukenglenpark@eastrenfrewshire.gov.uk

Website: www.roukenglenpark.co.uk

Table of Species & Sites

Species	<i>Dams to Darnley Country Park</i>	<i>Whitelee Windfarm</i>	<i>Rouken Glen Park</i>
Acorn	*		*
Adder		*	
Bluebell	*	*	*
Bramble	*	*	*
Conker	*		*
Dandelion	*	*	*
Fern	*	*	*
Heather		*	
Heron	*	*	*
Ivy	*		*
Kingfisher	*		*
Lark		*	
Magpie	*	*	*
Newt	*	*	*
Otter	*	*	*
Raven		*	
Starling	*	*	*
Weasel	*	*	*
Willow	*	*	*
Wren	*	*	*

Primary School Curriculum: **Acorn**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Can you make 10 words using just the letters found in acorn?

Mathematics

If an oak tree has 10,000 acorns on it and each acorn weighs 3 grams, what is the total weight of acorns on an oak tree?

Geography

Acorns appear in the coats of arms of lots of places - can you discover them all and investigate which one is the farthest away?

Art and Design

Can you draw an acorn attached to an oak leaf by its stalk? Now draw an oak tree with squirrels taking the acorns.

Drama

The purpose of an acorn is to create a new tree but they can be carried away, swallowed, gnawed on, fall down crevices etc. Act out these different scenarios and any others you can think of - can you guess what each person is doing?

Science

Squirrels and jays hide lots of acorns in the autumn so they can eat them over the winter when food is scarce and hard to find. Why would squirrels and jays hiding acorns help oak trees to grow?

Additional Information:

For more information see: <https://www.countryfile.com/wildlife/trees-plants/how-to-identify-nuts-and-seeds-from-12-familiar-british-trees/>

Secondary School Curriculum: **Acorn**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Acorns have a long history with druids and some think this is where the name comes from. Investigate the literary links between druidism, acorns and mythology and present your results for discussion.

Mathematics

A study in Germany showed that 250 jays removed 300kgs of acorns over only 20 days. How many kilograms will 1 jay remove in one day?

Art and Design

In the past acorns were commonly carved onto wooden spoons, or in later years, the metal handle was carved into an acorn. Design your own acorn spoon.

Science

Acorns are too heavy to blow away easily in the wind so how are acorns dispersed? What other methods do plants and trees use to disperse their seeds and nuts?

Geography

Investigate the distribution of the English Oak and find the 2 points of this furthest from each other—how far apart are they as the crow flies? How far apart are they if you had to travel by road, rail or boat?

Drama

Write a short story or play where an acorn plays a central role in the story or tale — either because of its mythological significance, or... because it's the murder weapon!?

Additional Information:

For more information see: <https://www.woodlandtrust.org.uk/>
<https://treesforlife.org.uk/>

Primary School Curriculum: **Adder (*Vipera berus*)**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Write a short story about a day in the life of an old adder, coming to terms with the changing world - imagine that you are the adder. What do you think they would do during their day, or what do they think of the changes to their habitat?

Mathematics

Adders can eat as seldom as every 2-3 weeks, or longer! Assuming they eat 1 vole/shrew every 2 weeks, how many animals does that mean 1 adder would eat in a year? Now work out how many small mammals would be needed if there were 10, 100 or 1000 adders?

Drama

Write a serious or humorous play or sketch (and act it out) about an adder getting into someone's car, or into a house by mistake - from the perspective of the unwitting adder, or the person encountering it!

Science

Adders belong to the 'viper' family of snakes. Research how many species there are in this family of snakes and write a short description about them, ranking them from least to most dangerous and why.

Art and Design

Design a textile, clothing, wallpaper pattern using the adder as inspiration.

Geography

Research the habitat range of adders in the world and work out how many countries are they found in?

Additional Information:

The Adder is one species that we do not recommend searching for without expert help due to the danger it poses. The Countryside Rangers can provide help and (WCRS) also possess a stuffed adder that they can use to bring this species to life for pupils - providing an up close but safe opportunity to see this species. The rangers can also advise on adder habitat and ecological information.

For more information see: www.arguk.org/ and www.arc-trust.org/

Secondary School Curriculum: **Adder (*Vipera berus*)**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Write a short but intense and detailed description of what you think an adder thinks, considers or senses when they are hunting their prey. This could focus on one sense, such as taste, or include all senses. Does the adder plan its attack or just strike and hope for the best?

Mathematics

Research the split of male and female adders in the UK and then try to calculate how many animals of each sex there are based on population estimates?

Science

Using the internet, research the lifecycle and current conservation status (population health) of the adder in the UK and try to calculate how many animals are required for the population to stay stable/healthy?

Drama

Write a serious or humorous play or sketch, and deliver it, about an adder discussing with a vole, the merits of eating it - from both perspectives!

Art and Design

The pattern on an adder's skin (scales) helps it to hide in undergrowth. Can you design a camouflage pattern that would work in one or all the habitats found at your school or one of the Ranger Service sites?

Geography

Look at distribution data to see where adders can be found in the UK. What habitats/landscapes do they use primarily? Which of the habitats found at the 3 Ranger sites do you think they prefer? Link to maths - what percentage (%) cover of the UK could theoretically support adders?

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Primary School Curriculum: **Bluebell (*Hyacinthoides non-scripta*)**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

In 1838, Emily Bronte, author of the classic *Wuthering Heights*, wrote a poem dedicated to bluebells. Read over the poem and taking this as your inspiration write your own poem about bluebells.

Mathematics

Bluebells flourish in old growth native woodland. Sadly native woodland has disappeared over much of Britain/Scotland - research the loss of this woodland and calculate how much it has reduced.

Art and Design

Bluebells and bluebell woods are amazing, bright and inspiring spaces - use photography or painting, or make a collage, to capture the spirit of a bluebell wood...or create your own on paper.

Drama

Can you think up a short play that has animal characters from, and revolves around, an ancient bluebell woodland.

Science

The sap of bluebells is very sticky and used to be used to glue flight feathers onto arrows. Can you make some glue using bluebells and use it to make an arrow?

Geography

Woods filled with native bluebells have disappeared at an alarming rate. Carry out research with your classmates and teachers to see if you can identify any local bluebell woods and plot these on a map.

Additional Information:

Bluebells are a protected species under the Wildlife and Countryside Act 1981. It is a criminal offence to uproot bluebells from land on which it naturally grows. Any trade in wild common bluebell bulbs or seeds is also an offence, carrying fines of up to £5000 per bulb. If you plan to use bluebells in your work - make sure you ask landowner permission and collect any parts needed sustainably and use a few as possible.

For more information see: www.plantlife.org.uk/uk

Secondary School Curriculum: **Bluebell (*Hyacinthoides non-scripta*)**

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English

Bluebells share their scientific name with Hyacinthus from Greek mythology. In Greek mythology, Hyacinths were said to spring from the blood of the dying Hyacinthus. Try to re-interpret this tale with a modern setting and characters.

Mathematics

Bluebells flourish in old growth native woodland. Sadly native woodland has disappeared over much of Britain/Scotland - research the loss of this woodland and calculate how long it would take to grow back the woodland we've lost in the last 50, 100, 200 years?

Art and Design

Visit a bluebell wood or area where bluebells grow and capture the visit on camera using different filters, different angles etc. and then back at school, use the images to create a collage that best conveys the feelings from the visit.

Drama

As already stated bluebells have a connection with ancient Greek mythology (Hyacinthus). Can you reinterpret the tale but with modern characters, settings and circumstances.

Science

Bluebells are known to contain anti-cancer chemicals but what other chemicals and compounds do they contain and what are they used for? What medicinal uses have they been put to and for a practical task - can you make bluebell glue and test its strength compared to modern glue...which is stronger or has a lower environmental impact?

Geography

Woods filled with native bluebells have disappeared at an alarming rate. Carry out research to see if you can identify any local bluebell woods and plot these on a map. Now calculate the distance between the remaining bluebell stands and research how far their pollen gets carried - can these remaining bluebells survive or will they become genetically isolated and then die off?

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Primary School Curriculum: **Bramble** (*Rubus fruticosus agg.*)

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

In mythology there is a day known as... the Devil blackberry Day.

Investigate why this is and once you know, write a short story about it.

Mathematics

Brambles can grow 3 inches per day. Can you calculate how long a bramble runner would be if grown for one full year, or how long it would take a bramble plant to grow from Whitelee Visitor Centre to Dams to Darnley and on to Rouken Glen park?

Art and Design

Giuseppe Arcimboldo was a famous Italian painter who made his name painting faces composed of fruit and vegetables! Research his work and use it and brambles to inspire you to create a painting or drawing.

Drama

Can you come up with a funny skit or play that incorporates brambles?

Science

Brambles are what is termed as an 'aggregated' species (in botany). Research what this means and once you find out, uncover how many more aggregated species there are?

Geography

Do you have any brambles in your school grounds? If so, draw a map and plot them on it, then mark what birds are seen close by...there will be lots! If your school doesn't have brambles, why not map them at one of the 3 parks?

Additional Information:

Brambles are a great source of fruit but never pick them from below (adult) knee height as everything below knee height is the 'devil's share'...because that's the height dogs pee to!

For more information see: www.plantlife.org.uk

Secondary School Curriculum: **Bramble (*Rubus fruticosus agg.*)**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

How many adjectives can your class collectively come up with to describe brambles?

Can you use them to write a poem about this fascinating plant?

Mathematics

Brambles are extremely tough plants. You might think this would make them heavy but they are in fact very lightweight. Cut a 3-inch piece of bramble and weigh it, then work out the weight of brambles per metre, kilometre, the length of Scotland etc.

Art and Design

Giuseppe Arcimboldo was a famous Italian painter who painted faces composed of fruit and vegetables! Research his work and use it and brambles to inspire you to create a painting or drawing.

Science

Brambles are known to reproduce via apomixis. What does this mean? If humans could do it, explain if you think it would be good or bad for the human species?

Geography

If brambles started growing from the middle of Whitelee windfarm, Dams to Darnley or Rouken Glen park in all directions and at the same rate of 3 inches per day - can you work out in which direction they would hit the coast first (north, south, east or west) and last?

Drama

Can you think up a funny skit that incorporates brambles into the story, and act it out?

Additional Information:

Brambles are a great source of fruit but never pick them from below (adult) knee height as everything below knee height is the 'devil's share'...because that's the height dogs pee to!

For more information see: www.plantlife.org.uk/uk

<https://bsbi.org/>

Primary School Curriculum: **Conker**

The seed from Horse Chestnut Tree (*Aesculus hippocastanum*)

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

The word 'conker' comes from the French to 'conquer' or from dialect 'knock-out'.

1) Think about the game and come up with other names for it. 2) Look at the conker and list as many descriptive words which relate to it.

Maths

Collect an assortment of conkers. In groups, weigh the individual conkers and classify these as 'small: 0-2g, medium: 2-4g & large: 4g+' depending on their weight. How many of each did you get?

Drama

The game of 'conkers' was first created in 1848 and involves drilling a hole in a conker and putting string through it. Then two contestants hit each other's conker, with the aim of breaking their opponents. In groups can you think of another game you could play with a conker and demonstrate this in front of the class?

Science

Grow a horse chestnut tree! Investigate what plants need to grow and try out techniques with your conker. Five conkers are given to the class to monitor. Think about what plants need to grow and use this information to grow the trees.

Art & Design

Create a piece of art which shows the life cycle of a horse chestnut tree. Starting off with a seed, growing into a tree, the tree flowering and producing seeds. Be creative and use natural materials such as leaves, clay and sticks.

Geography

Horse chestnut trees are not native to the UK. Do some research to find out where they are originally from. How were they introduced to the UK?

Additional Information:

An option to start off this project is to have a game of conkers with the class. If you have safety concerns regarding this, you can play the Puerto Rico version, which involves participants using their conker to hit a conker on the ground which is circled. It's the next persons turn when someone misses.

For more information see: <https://www.woodlandtrust.org.uk/>

Secondary School Curriculum: **Conker**

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Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Horse chestnut trees can live up to 300 years. Imagine you are a conker, growing into a 300 year old horse chestnut tree. What have you seen over the last 300 years? Do some research and describe five big events which have happened during this time.

Maths

Collect an assortment of conkers. In groups, work out the volume & surface area of the conkers. Decide how best to arrange these into 'small, medium and large'.

Science

Investigate what conkers react with best when growing. Using 10 conkers, try different techniques such as differing soil, temperatures, amount of light, and amount of watering. Record your hypothesis, method and results.

Drama

Horse chestnuts were introduced to the UK in the 16th Century. In groups, write a script (with someone playing the conker) and act out how it was transported, how people spoke, what the culture was like.

Geography

Horse chestnut trees are not native to the UK. Do some research to find out where they are originally from. Carry out a study on the area - were conkers used for anything in particular?

Art & Design

Using different techniques and media do an artistic study of a conker and conker shell. Use pencil, paint, collage, charcoal, pastels etc. You could also make a sculpture using clay.

Additional Information:

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For more information see: <https://www.woodlandtrust.org.uk/>

Primary School Curriculum: **Dandelion (*Taraxacum officinale*)**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Find a dandelion seed head. Blow on it and watch what happens.

Imagine being a dandelion seed and getting blown away; what happens to you? Where do you land? – write as a drama script, poem, or comic script .

Maths

Take a dandelion seed and look at it closely with a magnifying glass. Pick out the different shapes that are used to construct the seed, and think about what advantages these shapes might give the seed.

How many seeds can you collect from a seed head? Can you weigh them?

Science

There is a similar looking species to dandelion called coltsfoot. Research the life cycles of coltsfoot and dandelion and describe their differences and similarities.

Drama

You are a dandelion about to be pulled out by a gardener who regards you as a 'weed'. With you as the dandelion, and a classmate as the gardener, act out a scene where you try to convince the gardener not to pull you out of the ground.

Investigate

Do dandelions grow differently in different habitats?

- lawns, field, hedgerows, pavements
- light areas, shady areas
- take and record measurements of plants in different habitats in order to compare your findings accurately.
- length of longest leaf of each plant
- length of longest stem of each plant
- angle of leaves in relation to the ground - create your own angle measurers from folded paper to make right angles and 45°.

Art & Design

Dandelion sap can be used to write secret messages - it's hard to see when it's wet, but when it dries, the message is revealed.

Write a secret message using dandelion sap.

Can you write a message on a pebble or a leaf?

Can you make ink from any other plants, flowers or fungi?

Additional Information:

For more information see: www.plantlife.org.uk/uk

<https://bsbi.org/>

Secondary School Curriculum: **Dandelion (*Taraxacum officinale*)**

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English

Dandelions are considered a 'varmint' by humans, why?

Search for 'Varmints animation' on YouTube and watch the full animation.

How does this story reflect our own world? What is the role of the dandelion in this story? Have a think about the story...who are the real varmints on our planet?

History

Dandelions have had many uses throughout history. Research and list the uses of dandelions, both historical and modern-day.

Can you find any modern-day food or drinks that include dandelions?

Why not taste-test some washed dandelion leaves? - they are good in salads and are packed with vitamins!

Maths

Study the seed head of a dandelion. Can you pick out any patterns?

Research the Fibonacci Spiral. Can you see this pattern in the dandelion seed head?

(It's sometimes more easily seen after the seeds have been blown off)

Using the Fibonacci number sequence, draw your own Fibonacci Spiral.

Drama

Research the different common names for dandelions. Pretend you are a dandelion, and argue your case as to whether you agree or disagree with the names you have been called and why. Think about the different uses and importance of dandelions in nature.

Science

Research the different seed dispersal techniques used by plants and make a poster about them. Which technique does the dandelion use and why is it effective?

Languages

How did the name 'dandelion' originate?

What language did the name originate from?

What part of the plant does this name depict?

What other common names has the dandelion had throughout history and why?

Additional Information:

For more information see: www.plantlife.org.uk/uk

<https://bsbi.org/>

Primary School Curriculum: **Fern**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Go outside and study a fern species. Think about what it would say if it could talk, and what it would feel. For example; animals which may walk past, weather which effects it, what it's surroundings look like. Write this from the first person perspective.

Maths

Go for a walk and look for a fern species. When you find a plant draw a diagram of it, and in a group measure its length and its longest leaf. Compare results to see which group had the biggest and smallest of each.

Science

Go for a walk and look for a species of fern which has spores (usually Sep/Oct). As a class, just collect 4-5 leaves and discuss why you are not taking a lot. Discuss with the class that ferns reproduce using spores. Take these back to the classroom and place them with the spore-side facing down on a white piece of paper and leave overnight. The fern will shoot their spores onto the white paper and you'll be able to see a print in the shape of the leaf. You can then photograph this (be aware the spores will brush away very easily).

Drama

People used to think that ferns produced invisible seeds, which if eaten made you invisible and able to see into the future. In a group, imagine you collect these fairy tale seeds and are all invisible for a day. Perform a play of what you would do.

Art & Design

Go outside and collect a range of different leaves from the ground including fern leaves (ensure these are taken from the ground and not picked). Using paint - create leaf prints of all the leaves, and label them.

Geography

Find out which other countries ferns grow. in Are there any similarities between habitats? Use your findings to investigate an area and look for this plant.

Additional Information:

From the Pteridophyte group of plants; a fern is a primitive, non flowers species which evolved over 300 million years ago.

For more information on this species visit: <https://www.britannica.com/plant/fern>

Secondary School Curriculum: Fern

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Go outside and study a fern species. Think about what it would say if it could talk, and what it would feel. For example; animals which may walk past, weather which effects it, what its surroundings look like. Write this from the first person perspective.

Maths

Go for a walk and look for a fern species. When you find a plant, in a group measure the length of all its leaves. Work out the mean, medium and mode of these lengths.

Science

Go for a walk and look for a species of fern which has spores (usually Sep/Oct). As a class just collect 4-5 and discuss why you are not taking a lot. Discuss with the class that ferns reproduce using spores. Take these back to the classroom and place them with the spore-side facing down on a white piece of paper and leave over night. The fern will shoot its spores onto the white paper and you'll be able to see a print in the shape of the leaf. You can then photograph this (be aware the spores will brush away very easily). Use this as an introduction to learn about plant spores, and other whys plants reproduce.

Drama

People used to think that ferns produced invisible seeds, which if eaten made you invisible and be able to see into the future. In a group, imagine you collect these fairy tale seeds and perform a play based on the consequences.

Art & Design

Choose 3 different fern species to study and draw these side by side focusing on their differences. Use a range of materials including paint, pencil, charcoal, oil pastel.

Geography

Find out which other countries ferns grow in. Are there any similarities between habitats? Choose 5 countries in which ferns grow and describe the habitats they are present in. Use your findings to investigate an area and look for this plant.

Additional Information:

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Primary School Curriculum: **Heather (*Calluna vulgaris*)**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

Maths

Heather is often associated with peat, which is a type of soil.

University of York researchers visited Whitelee in 2017. They were measuring peat depth and taking soil samples using a core sampler. They measured a peat depth of 7.7m.

Peat actively forms at 1mm per year. When was the last time the soil at the bottom of the core sample saw daylight?

Drama

As a group, you are a colony of busy bees eager to collect nectar. One bee finds a great source of nectar in the heather at one of the East Renfrewshire parks. Research how you would communicate this to your fellow bees, and act out your journey to it, dodging the various dangers/hazards a bee might face.

History

Heather and many of its companion plants have had many uses throughout history. List the historical uses for the following plants:

- Heather
- Cotton-grass
- Sphagnum Moss
- Bog Asphodel

English

Research one of the other plants that the spell says heather 'shares its weather with'. Write an acrostic poem about this species.

Bilberry is Blaeberry in Scotland.

Science

Heather is an important plant for many species on the moor. Pick three of these species to research. Create a fact file about each species and why it depends on heather.

Art & Design

Find some heather, take a few cuttings and use these as brushes to create a scene from a heather habitat. Think about textures and shapes and use the heather in different ways to create your scene.

Additional Information:

Flowers from roughly August through September.

For more information see: www.plantlife.org.uk/uk and <https://bsbi.org/>

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Bilberry is Blaeberry in Scotland.

Languages

Find out the scientific names of the plants mentioned in the spell. These often describe the characteristics of a species.

Find out what they mean and why they are named as such.

Can you think of a better scientific name to describe these species?

Maths

A worker honeybee will visit 50-100 flowers per foraging trip.

2 million heather flowers need to be visited in order to make 1lb of heather honey.

On average, how many foraging trips are required to make 1lb of honey?

If the average foraging distance for a honey bee is 3.5 miles, what distance will be covered (on average) in order to make 60lb of heather honey?

Science

When visiting the heather's habitat, take a small quadrat and throw it randomly onto the ground. This is your study area.

How many different species can you see in your quadrat? Can you identify them?

Research the DAFOR scale - estimate the percentage cover of each species on your list and rank it on the DAFOR scale.

Drama

Think about the habitat and landscape associated with heather. In a group, choose and research the characteristics of species you'd like to act out.

The scene will be in the style of a live webcam feed of the habitat. Think about the noises, movements, shapes and behaviours of the wildlife and landscape.

Geography

Think about the landscapes in which heather is found. How have these landscapes and habitats formed over time?

How have the distributions of these habitats changed in Scotland and why?

Why are these habitats important in the fight against climate change?

Additional Information:

Flowers from roughly August through September.

For more information see: www.plantlife.org.uk/uk and <https://bsbi.org/>

Primary School Curriculum: **Heron (*Ardea cinerea*)**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Using the word heron, try to come up with an acrostic poem that best describes the bird.

Drama

Act out a heron stalking and catching its prey of fish or frog. How does it swallow what it has caught?

Art and Design

Draw, paint or sculpt a heron standing tall in the grass by a pond or river.

Mathematics

The heron is one of our largest birds, and the goldcrest is the smallest.

How many times bigger is the wingspan of the heron than that of a goldcrest?

Science

What is unusual about the way herons build their nests? Do any other birds do this?

Geography

A heron from Britain was found in the Gambia. Find the Gambia on a map. How far is it from Glasgow and how many countries would the heron have flown over to get there?

Additional Information:

The grey heron is one of our largest and most common birds.

For more information see: <https://www.bto.org> and <https://www.rspb.org.uk/>

Secondary School Curriculum: **Heron (*Ardea cinerea*)**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Hérons are important in Japanese culture. Write a Japanese Haiku poem on the subject of herons.

Drama

Hérons nest together in noisy colonies where fights can be regular. Act out a scene of lots of herons in their colony.

Art and Design

Hérons, egrets and cranes are important in Japanese and Chinese art. Try to research the symbolism behind their use in Asian art.

Mathematics

The largest heron colony ever recorded was in Sussex and contained around 400 nests in 1866. Herons are known to lay 2 eggs at a time. Assuming this to be the case, and if this heronry maintained 400 nests since 1866, how many chicks could this one colony theoretically rear since 1866?

Science

Hérons nest in colonies called heronries. What other British birds do this and what benefit would it have for the birds? Are there any downsides to nesting this way?

Geography

Research the world distribution of the grey heron. Which continents is it absent from? What might be the reason for this?

Additional Information:

The grey heron is one of our largest and most common birds.

For more information see: <https://www.bto.org> and <https://www.rspb.org.uk/>

Primary School Curriculum: *Ivy (Hedera helix)*

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Write a short story about ivy being allowed to grow over an abandoned house in a wood, hiding it from the world.

Mathematics

Ivy is very important for wildlife. Go for a walk and count how many different animals you see using ivy.

Drama

Imagine you're some ivy, rapidly growing, creeping and crawling over everything in your path and eventually wrapping around it with your vice-like grip.

Science

English ivy is known as an evergreen perennial. What does this mean? What other species can you find that are evergreen perennials?

Art and Design

Collect ivy leaves and use them to paint a picture of ivy growing over a building or tree.

Geography

Walk around your school grounds and map out where all the ivy is growing and what species it is.

Additional Information:

Ivy is an evergreen, woody climber which can grow to a height of 30m. Ivy is often accused of strangling trees however it is very important for wildlife.

Secondary School Curriculum: *Ivy (Hedera helix)*

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Write a short story about ivy growing up a tree. What animals would use it? What damage will it do to the tree?

Mathematics

English ivy can grow at 3 feet per year. How long would it take for ivy to grow around your school fence?

Drama

Ivy was brought into homes to drive out evil spirits. Write a play about ivy being used to keep evil spirits away.

Science

Some ivy can be poisonous.

Research to find out what species and what they contain that makes them poisonous. Who or what can be affected by them and how?

Art and Design

Collect different leaves from different species of ivy and use them to create a picture.

Geography

Ivy can grow in a number of different habitats. Discover the different habitats near your school and see if ivy is growing there.

Additional Information:

Ivy is an evergreen, woody climber which can grow to a height of 30m. Ivy is often accused of strangling trees however it is very important for wildlife.

Primary School Curriculum: Eurasian Kingfisher (*Alcedo atthis*)

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

The name kingfisher has evolved from its original 'King's Fisher'.

Write a folklore story about how the bird got its name. Think about what time in history this would have been and how things might have been different.

Mathematics

An average adult kingfisher weighs around 31 grams. It must eat at least its own bodyweight in food every day to survive.

The average stickleback weighs around 3 grams. How many must it eat every day?

Science

Investigate the habitat of a kingfisher. Walk down a stream and write down the key features of the environment and why it is suitable for this bird. Which other animals use it?

Do some pond dipping and see what animals you can find in the water. Think about how the kingfisher fits into the food-web.

Drama

Think about the folklore story you wrote about how the kingfisher got its name. In groups work this story into a play and perform it for the rest of the class.

Art and Design

Go outside and collect a range of interesting leaves. Use these to create a kingfisher using leaf printing. Create the Eurasian Kingfisher, along with others from different countries.

Geography

The closest relative of the Eurasian Kingfisher is the Cerulean Kingfisher, which is from Indonesia. Where else do you find kingfishers? Investigate which other countries kingfishers live and how the habitats differ.

Additional Information:

For more information on this species visit:

<https://www.rspb.org.uk/birds-and-wildlife/wildlife-guides/bird-a-z/kingfisher/>

Secondary School Curriculum: Eurasian Kingfisher (*Alcedo atthis*)

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

In the past, people believed that by hanging a dead kingfisher from a piece of string outside their door, it would indicate the direction the wind would blow.

Research some other superstitions related to animals, and how science has since taught us these are not correct.

Mathematics

A kingfisher territory is usually around 1km, however it has been known to be up to 3km. On a 24 mile stretch of river, what are the maximum and minimum amount of kingfisher territories that could be present?

Science

Investigate the habitat of a kingfisher. Walk down a stream and write down the key features of the environment and why it is suitable for this bird. Which other animals use it?

Do some pond dipping and investigate the health of the water. Think about how the kingfisher fits into the food-web.

Drama

Come up with a folklore story relating to how the kingfisher got its name. In groups, work this story into a play and then perform it for the rest of the class.

Art and Design

Investigate the colour schemes of different species of kingfisher from around the world. Create different pieces of abstract art using these colour schemes.

Geography

The closest relative of the Eurasian Kingfisher is the Cerulean Kingfisher, which is from Indonesia. Where else do you find kingfishers? Investigate which other countries kingfishers live and how the habitats differ.

Additional Information:

For more information on this species visit:

<https://www.rspb.org.uk/birds-and-wildlife/wildlife-guides/bird-a-z/kingfisher/>

Primary School Curriculum: Lark - Skylark (*Alauda arvensis*)

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Listen to the song of a skylark - how does it make you feel?

Draw a picture of a skylark and surround it with a mind-map of words to describe how it makes you feel.

Mathematics

During a song flight, the skylark can reach a height of over 1000ft above the ground - that's around 305 metres.

A Whitelee wind turbine is 110m tall. Roughly how many Whitelee wind turbines would you need to stack on top of one another to reach this height?

Science

Skylark numbers have declined due to a number of threats, and the species is now considered a 'Red List Species'. What does this mean? What are the other Conservation List Categories and their meanings?

Art & Design

Skylarks are currently under threat. Research the threats posed to skylarks, and design a poster which would help raise public awareness of the threats that the skylark faces.

Geography

Skylarks move to coastal areas to avoid harsh winter conditions.

Look at what sites in East Renfrewshire have skylarks and work out how far it is in miles from the site to the nearest coast.

Compared to other bird species, would you consider this a particularly long journey for a winter migration? Why?

Drama

Listen to the song of a skylark, and to Vaughan Williams' 'The Lark Ascending'. In a group, or as an individual, choreograph your own dance to the music, depicting the song flight of a skylark, and expressing how the music/birdsong makes you feel.

Additional Information:

Skylarks can be found all year round but are more visible from March/April until August.

For more information see: <https://www.bto.org> and <https://www.rspb.org.uk/>

Secondary School Curriculum: Lark - Skylark (*Alauda arvensis*)

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

Music

Listen to 'The Lark Ascending' by Vaughan Williams. How does it reflect the flight song of a skylark?

Can you compose a short excerpt to reflect the song or call of your favourite songbird? Explore different sounds you can make with different instruments.

Mathematics

In order to maintain populations, skylarks need to lay on average 2.5 broods per year. Each brood will have an average of 4 eggs laid. If only 2 chicks are required to make it to parenthood in order to maintain the current population, then what is the average mortality rate per nesting pair as a percentage?

English

Read the lark spell and research the behaviours of a skylark. What is the metaphor the writer has chosen for the lark, and why do you think he has chosen it?

Science

The skylark is a ground-nesting bird. What does this mean? What are the threats to ground-nesting birds, particularly in areas popular with tourists and dog walkers?

Research what the Ranger Services are doing to combat these problems. Can you think of anything else they could do to combat this issue?

Geography

Research suitable habitats for skylarks, then look at a map/aerial photo of your local area. Can you find any suitable habitats for skylarks within 1km, 5km, 10km, 15km of your school? If you have found some suitable habitats, how far apart are they from each other?

Research the meaning of habitat fragmentation and list the effects this might have on the skylark, as well as other species.

Art & Design

Research the different behaviours and movements of the skylark. Using a variety of materials and your imagination, create a mood board based on the different aspects of the life of a skylark.

Additional Information:

Skylarks can be found all year round but are more visible from March/April until August.

For more information see: <https://www.bto.org> and <https://www.rspb.org.uk/>

Primary School Curriculum: **Magpie (*Pica pica*)**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Have a walk outside and see how many magpies you can spot. Think about what they look like and how they move. Find a quiet place outside and write a poem about them using the acrostic format.

Mathematics

It takes a pair of magpies 40 days to build a nest. Work out how many hours, then how many minutes, then how many seconds this is.

Science

Research how the seasons affect a magpie's behaviour. What does it do in spring, summer, autumn and winter? Using words and drawings, write a description of the bird's behaviour under each season heading.

Art & Design

Magpies have beautiful coloured wings. Go for a walk and see if you can find any feathers. Take these back to the classroom to study. Draw or paint the feather, think about what colours you can see.

Geography

Imagine you are a magpie flying across Scotland, what different habitats do you fly over and how are they different from each other? Think about how land is used and for what purpose.

Drama

Magpies live in a variety of habitats including towns, woodlands, farmland and heathland. In groups choose a habitat and pretend you are magpies flying over your chosen area. Imagine what it looks like from the sky, describe what you see, hear and smell. Perform this in front of the rest of the class.

Additional Information:

For more information see: <https://www.bto.org> and <https://www.rspb.org.uk/>

Secondary School Curriculum: **Magpie (*Pica pica*)**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

In the past, superstitious people in the UK have feared magpies, thinking they are 'bad luck'. Many other cultures consider them a positive symbol. Research the folklore of this bird in other cultures and write your own folklore tale.

Mathematics

Magpies fly approximately 25mph. Work out how long it would take one to fly to the following places: Inverness, London, Paris, New York. (Note: this is an exercise and magpies would not travel this far).

Science

How do birds fly? Research the aerodynamics of a wing and the forces which keep a bird in flight. Go outside and make a 'gliding machine' using sticks and plastic. Have competitions and see whose goes the furthest.

Art & Design

Magpies have beautiful coloured wings. Go for a walk and see if you can find any feathers. Take these back to the classroom to study. Draw or paint the feather, think about what colours you can see.

Geography

Imagine you are a magpie flying across Scotland, what different habitats do you fly over and how are they different from each other. Do a study on each habitat, think about how land is used and for what purpose.

Drama

Magpies live in a variety of habitats including towns, woodlands, farmland and heathland. In groups, choose a habitat and pretend you are magpies flying over your chosen area. Imagine what it looks like from the sky, describe what you see, hear and smell. Perform this in front of the rest of the class.

Additional Information:

For more information see: <https://www.bto.org> and <https://www.rspb.org.uk/>

Primary School Curriculum: **Newt**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Write a play or diary entry on what its like to be a newtlet, going from egg to adult within a healthy garden pond.

Drama

Act out a play about a newt's lifecycle. Remember to add all the dangers a newtlet could face.

Geography

Find your local ponds. Go for a walk to a few of them and see if you can see any newts at the ponds. What newts did you see?
You can pond dip. Remember to wash your nets well between different ponds.

Mathematics

A big issue facing pond animals at the moment is litter. Do a litter pick near a local pond/stream and weigh how much you have collected. How long would it take for the litter there to reach a river?

(Measure the distance from pond to sea using maps and do experiments to see flow speed within the stream).

Science

Research the fascinating life cycle of a newt.

Art and Design

Paint a detailed pond scene with all of the different pond creatures found there, but focusing on a newt.

Additional Information:

Scotland is home to 3 native newt species . These are: smooth newt, palmate newt and the great crested newt.

For more information see: <https://scotland.nbnatlas.org/>

Secondary School Curriculum: **Newt**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Write a short story on what it's like to be a newt living in a wildlife pond. What other creatures do you share the pond with? Where is your pond?

Mathematics

Find your local pond and calculate the size of the pond. How many newts can the pond support? Do this for each different species.

Drama

Act out a play about the three different species of newts that can be found within Scotland.

Science

Scotland is home to three different newt species. What environmental differences does each species need, and how are they different from each other.

Art and Design

Create models out of clay of the different species of newts making them life-sized.

Geography

Look at distribution data to see where the 3 species of newts are found. Which species could be found near your school?

Additional Information:

Scotland is home to 3 native newt species . These are: smooth newt, palmate newt and the great crested newt.

For more information see: <https://scotland.nbnatlas.org/>

Primary School Curriculum: **Raven (*Corvus corax*)**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

One of the names for a group of ravens is an 'unkindness'. Find out what other names have been used and do some creative writing on why you think these names were used, or can you come up with better names?

Mathematics

Even though they are very light, bird feathers still have weight. Collect some feathers and weigh them and then try to work out the weight of feathers that could be on a raven.

Geography

Ravens are found around the world. Discover all the countries they are found in and calculate the distances between them.

Art and Design

Bird feathers were used in the past to make quills for writing.

Collect some feathers from different species and try some calligraphy.

Drama

Ravens are very sociable birds and will warmly greet their friends, and shun their enemies.

Act out a scene where a group of ravens meet. How will you show friendship or distrust as a raven, without words?

Science

Ravens are members of the crow family and are highly intelligent and good problem solvers.

Research some of the tests researchers have given ravens and see if you can come up with a better test.

Could you build a food puzzle in your school grounds to test your ideas?

Additional information:

For more information see: <https://www.bto.org>

<https://www.rspb.org.uk/>

Secondary School Curriculum: **Raven (*Corvus corax*)**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Study Edgar Allen Poe's famous poem 'The Raven'. Try and create your own poem about ravens in the style of Poe or another famous poet.

Mathematics

Ravens do not migrate but many species of birds do. Investigate a migratory species, or ravens, in a local area, and try to calculate how many 'air miles' they will cover in their lifetime.

Art and Design

Shades of black are only slightly different than pure black. Can you create a nature scene, maybe including ravens, using only shades of black?

Science

Bird feathers can become fuzzy, but when a bird preens them, they zip together, a bit like Velcro.

Humans have used nature to inspire invention - called biomimicry.

See if you can think up any new ideas or products using nature as your inspiration.

Geography

Ravens are found around the world. Discover all the countries they are found in, and calculate the distances between them and how long it would take a Raven to fly to them all?

Drama

Make up some raven characters with paper/card, clay or other materials and create an animation about something concerning raven behaviour.

Additional information:

For more information see: <https://www.bto.org>

<https://www.rspb.org.uk/>

Primary School Curriculum: **Starling (*Sturnus vulgaris*)**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Look at the pattern the writer has used to shape the starling poem.

Create your own poem about a wild creature of your choice using the same incantation pattern to mix the colours, describe the sounds and how to teach the movement of your chosen species.

Mathematics

On average, there are one hundred thousand starlings in a murmuration flock.

If you were to line up all of the birds side by side with their wings spread out, how long would the line of starlings be? (The average wingspan of a starling is 40cm).

Art and Design

Using a scratch art kit, or by making your own scratch art paper, scratch out a picture of a starling or a group of starlings. You may want to research where they flock to, and use this as inspiration for your picture.

Science

Take a walk in your local area to see if you can spot any starlings. If you see any, take some time to sit or stand and watch their behaviours, listening to their sounds and how they interact with each other or other birds.

Science

What is a murmuration? There are three main reasons why starlings are thought to perform murmurations. What are they?

Drama

Watch some videos of starling murmurations. In a group, perform your own murmuration, perhaps starting off really slowly to get the hang of it, then speeding up. Starlings use murmurations in order to share information with each other - think about what information might be important to a starling, and share it with the rest of your murmuration.

Additional information:

For further information see: <https://www.bto.org>

<https://www.rspb.org.uk/>

Secondary School Curriculum: **Starling (*Sturnus vulgaris*)**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

Music

Listen to an audio recording of starling song and chatter. What words does the writer use to describe these sounds? How would you describe it? And can you replicate it using a variety of musical instruments or everyday items?

Mathematics

If a starling weighs 75 grams, how heavy was the largest recorded starling murmuration ever? (6-million birds). Write your answer in grams, kilograms, and tonnes.

Art and Design

Using a colour wheel, find the colours which best match the colours described in the spell, then find the equivalent opposite colours to create your own abstract painting or drawing of a starling.

Science

Starling murmurations are associated with pareidolia - what does this mean?

Watch some videos of Starling murmurations and see if you can spot any examples.

History

The common starling, or European starling, is a non-native, invasive species in North America. What does this mean? Who introduced the starling to North America? When did this happen, and why did they do it?

Drama

Watch some videos of Starling murmurations. In a group, perform your own murmuration, perhaps starting off really slowly to get the hang of it, then speeding up. Starlings use murmurations in order to share information with each other, think about what information might be important to a Starling, and share it with the rest of your murmuration.

Imagine you are a young starling taking part in your first murmuration, how do you feel about it?

Additional information:

For more information see: <https://www.bto.org>

<https://www.rspb.org.uk/>

<https://www.aba.org>

Primary School Curriculum: **Weasel (*Mustela nivalis*)**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Write a short story or diary entry on a day in the life of a weasel.

What would a weasel do during its day?

Mathematics

How many animals does a weasel need to eat per week?

Once you know, how much food does one family unit need per week?

Drama

Act out a play of a mother weasel looking after her family unit.

Science

Weasels are members of the mammal family. Research what a mammal is. What makes mammals special?

Art and Design

Paint or draw a weasel family unit in the landscape or habitat you would expect a weasel would live.

Geography

What habitats/landscapes do weasels live in? Do you have these habitats near your school?

Additional Information:

The weasel is a mammal of the genus *Mustela* of the family Mustelidae. Members of this genus are small, active predators, with long and slender bodies and short legs.

Secondary School Curriculum: **Weasel (*Mustela nivalis*)**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Write a detailed short story or comic strip on how a weasel feels about the landscape/habitat around it getting turned into a housing scheme.

Drama

Act out a play of a weasel having to hunt for its dinner, and how it is feeling. Don't forget to add in how the prey is feeling as well.

Art and Design

Using natural materials (plant leaves, twigs etc.), paint/create the landscape that a weasel lives in.

Mathematics

Research the UK weasel population numbers. Are numbers increasing or decreasing in each region? What's the overall trend?

Science

Research all of the different ways humans have been impacting on weasels (habitats, prey, predators etc.)?

Geography

Look at distribution data to see where weasels are generally found. Where are they mostly found? What habitats/landscapes do they use the most?

Additional Information:

Weasel is a mammal of the genus *Mustela* of the family Mustelidae. Members of this genus are small, active predators, with long and slender bodies and short legs.

Primary School Curriculum: **Willow (*Salix spp.*)**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Write a comic strip on being a willow tree that's watching the seasons and years go by and featuring the different animals that use a willow tree.

Drama

Act out the life of a willow tree through the different seasons and featuring the different animals that may use a willow tree.

Art and Design

Make a picture out of willow leaves. What patterns can you make with different species leaves?

Mathematics

How much water can you get from a willow tree? Look at how to collect water from a willow.

Find out how much water a human needs to live. How many trees would you need to collect water from to live?

Science

Look at the life cycle of a willow tree. What does it need to grow?

Geography

What species of willow trees are near your school? Have a look at the trees and see what animals use each species.

Additional Information:

Scotland is home to a number of different willow species and willows easily hybridize, producing crosses between species.

For further information see: <https://bsbi.org>

Secondary School Curriculum: **Willow (*Salix spp.*)**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

English

Write a short story on being a willow tree that's watching the seasons and years go by. What is it feeling and seeing?

Mathematics

Find out how much water a willow tree can remove from the ground. How long will it take 1 willow to dry out a 1 meter square of a peatbog?

Drama

Act out the life of a willow tree who's habitat is being destroyed? How would the tree feel?

Science

There are many different species of willow within the UK. Have a look at the different species and how humans have used willow over the years

Art and Design

Paint/draw willow trees in all the different seasons using willow leaves for a paint brush.

Geography

Do you have any willow trees near your school? Draw a map marking where they are and the habitats they're found in.

Additional Information:

These moisture-loving plants are native to temperate and cold regions in the northern hemisphere. Willows easily hybridize, producing crosses between species.

For more information see: <https://bsbi.org>

Primary School Curriculum: **Wren (*Troglodytes troglodytes*)**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

Music

The wren has one of the loudest songs of any bird, even though it is a very small bird. Listen to their song. Can you hear how many notes are in the song? Can you use an instrument to try and make the song of the wren?

English

The wren is often called the King of birds, and there are fables telling the story of why it is called this. See if you can find the tale of the Wren, the King of Birds?

Geography

Wrens can be found almost anywhere but they prefer woods, farmland and hedges. Their favourite foods are spiders and insects. Look at an aerial map of the area around your school. Can you see anywhere that wrens might like and that might have the food they like to eat? Have you ever seen a wren in or near your school grounds?

Mathematics

The average weight of a wren is 10g. The average weight of a mute swan is 12kg. How many wrens does it take to weigh the same as 1 mute swan? Is the wren our lightest bird?

Science

The wren is the most numerous British bird. Find out how many we think there are in Britain. Do you think this is a large number? Why do you think we rarely see them if there are so many?

Art & Design

Wrens build unusual nests. Research this and draw or make a wren's nest with whatever materials you can. Place it in suitable habitat and see if it gets used.

Additional Information:

The scientific name *Troglodytes troglodytes* means cave dweller.

For more information see: <https://www.bto.org>

<https://www.rspb.org.uk/>

Secondary School Curriculum: **Wren (*Troglodytes troglodytes*)**

Here are some suggestions to get you started - but you don't have to stick to them rigidly and there's lots of crossover so be imaginative.

Music

The wren has one of the loudest songs of any bird, even though it is a very small bird. Listen to their song. Can you hear how many notes are in the song? Can you use an instrument to try and make the song of the wren?

Mathematics

It is estimated there are 17 million wrens in the UK. If the UK is 242,492km², what is the population density of wrens in the UK? Do you think this figure is high or low. Compare with other UK birds.

English

Read the wren spell in the Lost words. Why do you think it is written in this way? How does this relate to the wren's behaviour?

Science

Look at the wren's bill and then look at what it eats. Does the bill shape influence what it eats.? Now compare the bill to birds of other sizes and shapes. How does the bill shape affect what the bird eats?

Geography

There are six subspecies of wren in the UK. Four are found on islands in Scotland. Look at a map of Scotland. Research which islands have subspecies. Why do you think these islands have subspecies?

Art & Design

Look at the picture of a wren used to illustrate it in the Lost Words. Do you think this gives an impression of how small the wren is? What about its famous upwards pointing tail. Why is it not in the drawing? Can you draw/paint a wren that illustrates these points?

Additional Information:

The scientific name *Troglodytes troglodytes* means cave dweller.

For more information see: <https://www.bto.org>

<https://www.rspb.org.uk/>

<https://scotland.nbnatlas.org/>