

EXPLORING OUR WILD ISLES: WOODLANDS

ACTIVITY GUIDE FOR SECONDARY TEACHERS
AND YOUTH GROUP LEADERS

SAVE OUR
WILD
ISLES

AGE 11 – 16 YEAR OLDS





INTRODUCTION

Have you ever taken the time to think about all the amazing landscapes we have in the UK? Despite being small, the combination of weather, climate and ancient rock formations we have in the UK means that we are lucky enough to have some of the most diverse and beautiful landscapes on Earth.



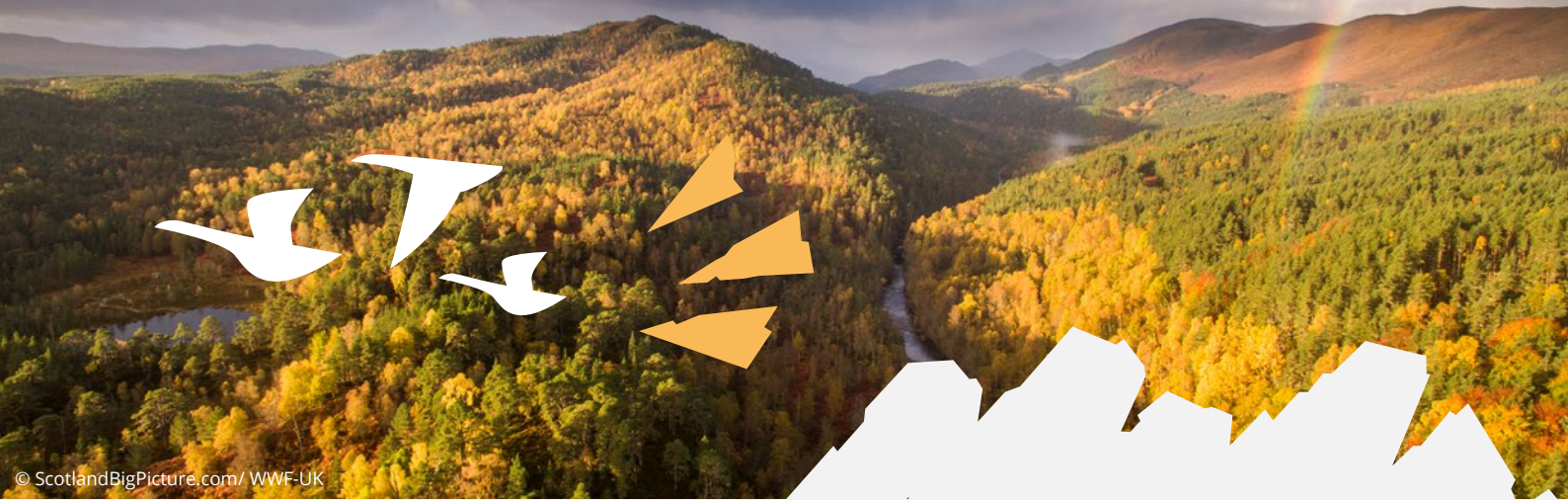
From our high craggy mountains, boggy moorlands, rushing rivers, dense green forests, tranquil lakes, wildflower meadows, rocky coastlines and wild seas, each of these unique landscapes is packed full of different habitats with a huge variety of plants, animals and fungi.

Because of this, the UK is home to some amazing natural wonders: spectacular murmurations of starlings, dense woodlands sprinkled with bluebells, rutting deer on frosty mornings, glittering blue damselflies dancing over streams, damp forest floors exploding with mushrooms – it's all here, right on our doorstep!

But despite all of this, we have not been protecting our precious nature. We have farmed intensively across almost all of our land, we have expanded towns and cities putting pressure on surrounding countryside

habitats, built miles of roads and trainlines carving up wild habitats and polluted our waters with plastics and pesticides.

The UK is now one of the most nature depleted countries in the world and many of our unique habitats are now under pressure. Over the last 50 years we've had huge losses in numbers of wildlife. More than one in seven native species are now facing extinction and more than 40% are in decline including some of our most iconic species like bumblebees and hedgehogs.



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GETTING TO KNOW WOODLANDS

Our natural trees are essential. They purify our air, capture carbon and provide food and shelter for thousands of species. But centuries of poor management and destructive development has left the UK with only 13% tree cover, and only half of this is natural woodland. In fact, we are one of the least wooded countries in Europe.

Some woodlands are flooded with bluebells each spring, while mysterious fungi poke their way through the soil each autumn. Others are temperate rainforests, rarer than tropical rainforests, where the trees cascade with lichens, and the surfaces are thick with mosses and ferns. And in the north sits the great Caledonian pinewood that faces up to our harshest winters and weathers our worst storms. But what none of our woodlands can weather is the impact of humans.

Many of our trees have been cleared for land uses like farming and for development like road and house building. We've replaced a lot of natural woodland with fast-growing non-natural trees, as a resource for burning and building. But when our natural woodlands are managed appropriately, they can provide these benefits as well as supporting nature.

Sadly, our natural woodlands have now almost vanished. The 600,000 hectares (that's more than half a million football pitches) of ancient woodland we have left need protecting and restoring back to good ecological health. These remaining tiny, isolated fragments are far from safe. They're at risk from development, invasive non-natural species like grey squirrels and rhododendrons, grazing by deer, and the climate emergency. Diseases including the ash dieback fungus is becoming an alarming problem, predicted to kill 80% of ash trees in the UK.

Losing our ancient woodlands means losing the precious wildlife they support, such as willow tits – our fastest-declining resident bird – lesser spotted woodpeckers, and wood warblers. Mammals such as red squirrels and

hazel dormice are barely clinging on, while woodland butterflies have seen their UK population drop by 41% in just 30 years.

If we lose our woodlands, in particular our ancient woodlands, we also lose their capacity to capture and store carbon, one of our vital defences in the battle against the climate emergency. They can also help protect against flooding, stabilise the soil, help plant pollination, and can even absorb pollution, cleaning the air that we breathe.

However, saving our woodlands isn't just about planting more trees. We need to start by protecting what we still have and making these special places even better for wildlife. Connecting and buffering these areas will also help – it will give our trees a chance to naturally regenerate where they can. When we do plant trees, they need to be the right trees, planted in the right place so that our woodlands of the future can help us fight climate change, and help our rapidly declining woodland wildlife recover too.

Woodland facts

- Around 4 billion tonnes of carbon are stored in UK woodland, 70% is in the soil.
- 326 species completely depend on oak trees, including 257 invertebrate species.
- Woodland covered 32,400 sq km (or 13%) of the UK in 2022.
- 2,000 species invertebrates such as spiders, slugs, moths, beetles are associated with veteran trees.
- Oak trees live for many centuries, once it's older than 4 centuries, an oak tree is considered to be 'ancient'.



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WHAT'S IN THIS GUIDE

This guide is designed to be used by teachers and youth group leaders and contains activities suitable for students aged 11-16 (Key Stage 3-4, Third-Fourth Level). These activities are all designed to encourage students to connect with UK nature, explore the biodiversity of their local green spaces and learn more about woodland ecosystems. We recommend using the Save Our Wild Isles presentation in combination with these activities.

Activity 1:

The wood wide web

Activity 2:

Stepping into a better future

Activity 3:

The game board

Activity 4:

Leave a legacy

Activity 5:

Yew tree timeline

Activity 6:

Nature-friendly careers



Sustainable Development Goals

The activities in this guide link to the following Sustainable Development Goal:

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.



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ACTIVITY 1

THE WOOD WIDE WEB

Time: 20 minutes

Curriculum links: England: Science, Scotland: Sciences, Wales: Science and technology, Northern Ireland: Science and technology.

Oak trees are amazing – they can live for hundreds of years and are classed as ancient once it reaches 400 years old. Oak trees communicate with each other. Oak trees (and most trees actually) are connected underground by fungi which wrap around the trees roots in a stringy mat known as a mycorrhizal network. The relationship between trees and fungus is a symbiotic one which means both the trees and the fungi benefit from it. Trees get minerals the fungi donate to them, and the fungi get to take some sugars from the trees' roots. Scientists think that trees might also use the fungi network to communicate and they have given it the nickname the 'wood wide web'.

You will need

- Outside space.
- String or skipping ropes tied together (long enough so 6-8 students can spread out).
- Photos of an oak tree (optional).
- Fact cards.
- Paper and pencil (per group).

Instructions

1. Begin by using the oak tree images or go outside and find an oak tree to give students a visual experience of what an oak tree looks like:
 - a. Oak tree – mature oak trees have a distinctive shape and are impressively big trees.
 - b. Oak leaf – oak leaves are easy to identify as they are unique – notice the shape, the colour and also the texture of the leaf.
 - c. Acorn – oak trees produce acorns and you can find these on woodland floors in the late summer and



autumn. They can be green or brown depending on how old they are, and they have a really smooth surface. Acorns sit in a little cup which attaches them to the tree.

2. You are going to make a human wood wide web – the teacher is the oak tree in the centre, and the students make up the fungal networks. Divide the students into groups of 6-8. Each group is a fungal network which attaches to the oak tree in the centre (teacher).
3. Students spread themselves along the string while the teacher holds from the centre. The lines don't have to be straight, but don't let students stand too closely to each other otherwise they will overhear each other.
4. The wood wide web is a way to pass on information, just like the World Wide Web that we all use every day. The teacher begins by showing the first student in each group (the one nearest to the centre) a fact from the fact cards.
5. Students then pass on the fact down the wood wide web by whispering it to the next student along the fungal network (string). The final student on the wood wide web writes down the fact.
6. Once all six facts are sent down each of the fungal networks, the students can come to the centre and compare their results.

Questions

- Discuss the final question from fact card six – can you help? What can students and schools do to protect oak trees – can each student plant one acorn in autumn?
- Do you know how other wild plants and animals communicate? Smells, sounds, vibrations – the wild world is full of communication!

Safety

- Make sure students are dressed appropriately for spending time outside.

ACTIVITY 1
THE WOOD WIDE WEB
FACT CARDS

SAVE OUR
**WILD
ISLES**



Fact One:

At 400 years old,
I am called an
ancient oak tree.

Fact Four:

I support 38
different species of
bird – that's a lot!

Fact Two:

My oak flowers feed
butterflies, moths,
squirrels and bees.

Fact Five:

My roots are shallow
but go really wide –
most are only 30cm
below me.

Fact Three:

Jays are birds that
bury my acorns
helping new oak
trees grow.

Fact Six:

Oak trees like me
need protecting.
Can you help?

ACTIVITY 2

STEPPING INTO A BETTER FUTURE

Time: 40 minutes

Curriculum links: England: English, Science, Scotland: Literacy and English, Sciences, Wales: English, Science and technology, Northern Ireland: Language and literacy, Science and technology.

The UK's ancient woodlands are threatened by development, overgrazing, air pollution and the spread of invasive species such as rhododendron. Around half of the UK's remaining ancient woodlands are affected by felling and replanting with non-natural conifers.

These problems can feel overwhelming, and we need to be imaginative, innovative and clever about how we address these issues to ensure that the future of our woodlands is guaranteed.

This activity helps students imagine a better future for woodlands.

You will need

- Large space such as school hall or gym.
- Scrap paper to make 'stepping stones'.
- Pens.
- White board.



Instructions

1. Put students into groups, and either give them one of the problem statements below, or ask them to come up with their own referring to the threats facing our woodlands or the species within them.
2. In a suitable large space, set up two opposite areas – one side is labelled 'Now' and opposite is 'The Future' (about 5 metres apart to allow for the creation of about five stepping stones).
3. Ask students to stand at the 'Now' point in their groups. They will need to think of a solution to get from 'Now' to 'The Future' – a future where UK woodlands are thriving, growing and no longer under threat. They write their idea (and its development) onto pieces of paper which they can then step on to take woodlands from 'Now' to 'The Future'. The stepping stone headings are:

Step One – The solution

Step Two – How does it work?

Step Three – How would it help?

Step Four – Benefits for wildlife?

Step Five – Benefits for people?

4. Explain to the students that the more detail and information they put on their stepping stones, the stronger their pathway is to the future.

Example problem statements:

Only 44% of the UK's woodland is managed sustainably.

The UK has lost up to 70% of its ancient woodlands.

The UK's ancient woodlands are threatened by development.

The UK's ancient woodlands are threatened by overgrazing.

ACTIVITY 3

THE GAME BOARD

Time: 45 minutes

Curriculum links: England: Science, Geography, Art and design, Scotland: Sciences, Social studies, Technologies, Wales: Science and technology, Humanities, Expressive arts, Northern Ireland: Geography, Science and technology, Arts.

One of the big challenges for engaging young people with our natural world is how to connect two such different worlds! This activity seeks to bring the world of woodlands to the world of gaming. Not all students will be gamers, and some might prefer to complete this

activity as a cartoon or a storyboard. This activity could be expanded into a long-term project by creating their computer/game board and testing its playability.

You will need

- Colouring pens and paper.

Instructions

1. Students are going to create a game board using UK woodlands as the theme. Discuss with students why they do or don't enjoy gaming. What makes a good game? Why are games so popular with young people today? Is gaming a good avenue for helping young people to connect to nature?
2. Students will design a computer/game board by using the structure below.

Step One: Design the woodland location – think about layers of vegetation, different shapes and colours to make the setting as attractive as possible.

Step Two: Design the main character. Make sure it is a species that belongs in a UK woodland. Ideas could include: golden eagle, robin, wild boar, roe deer, wood ants, red squirrels, tawny owl.

Step Three: Design the challenge – what does your main character have to achieve from the beginning of the game to the end?

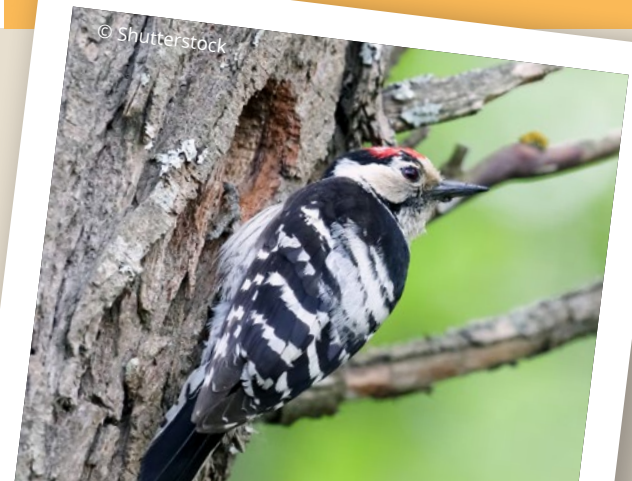
Step Four: Design one or two threats relevant to your character that it has to overcome.

Step Five: Design rewards to give the player incentive and motivation.

Step Six: Design a clear win/lose situation for the end of the game.

Questions

- What other things have you experienced that enabled you to enjoy or connect with nature?
- What are the barriers to young people connecting with the natural world?
- What are the benefits of connecting to nature – what value does nature have for young people?



ACTIVITY 4

LEAVE A LEGACY

Time: 1 hour

(ideal for the Autumn Term but signs can be made in advance of planting)

Curriculum links: England: Science, Art and design, Scotland: Sciences, Technologies, Wales: Science and technology, Expressive arts, Northern Ireland: Geography, Arts.

One of the most amazing things about trees is their longevity. Oak trees may live for 1,000 years, although 600 years is more typical. Planting trees on a school site is a wonderful way for older students to feel like they are leaving a legacy to their school.

You will need

- Sapling trees (native).
- Spade.
- Gloves.
- Watering can.
- Tree guard and bamboo cane (optional).
- Materials for making a plaque.



Instructions

1. To plant the saplings, dig a small hole wide enough to accommodate the width and the depth of the tree roots.
 2. Gently put the tree in and hold it upright while you put the soil back. It should form a mound a little higher than the ground.
 3. Don't squash the soil down too hard, or water won't be able to get through to the roots.
 4. Push the bamboo cane in next to the sapling and wrap the tree guard around both.
 5. Water your tree.
 6. Students can design and create wooden plaques for each sapling. Include:
 - the name of the tree
 - the names of the student(s) planting it
 - the year it was planted
 - illustrations, patterns or design of choice
- Optional: create an info board about the main characteristics of the tree. For example:
- shape of the leaf
 - any fruit it might produce
 - common species found on this tree
 - changes throughout the seasons
7. Add plaques to each tree sapling – this could be made into a school event – invite parents and especially younger students so that the legacy element is strong. Older students are passing on the care of these trees to the younger students.



Question

- What do you hope the impact of this legacy project will have in our school?

ACTIVITY 5

YEW TREE TIMELINE

Time: 40 minutes

Curriculum links: England: English, History
Scotland: Literacy and English, Social studies, Wales:
English, Humanities, Northern Ireland: Language and
literacy, History.

The oldest tree in the UK is the Fortingall Yew in Perthshire which some believe to be up to 5,000 years old. The history this tree has seen is vast. This activity helps students connect with the history of the United Kingdom in that time frame.

You will need

- Pen and paper.
- Access to the internet for research.
- Image of the Fortingall Yew.

Instructions

1. Students are shown the image of the Fortingall Yew and asked to guess how old it is.
2. Ask students to research and create a timeline of UK history to cover the period of time the Fortingall Yew has been living.
3. Ask students to begin from today and note the events down separately before adding them to the timeline so they know how to space them out.
4. Acknowledge the fact that the further they go back in time, the less we know about what was happening in the United Kingdom at that time. The far end of their timeline is likely to be fairly sparse.

Questions

- Why do we have so little record of what was happening here 5,000 years ago?
- We give huge amounts of time, money and care to preserving our human history in the UK – castles, art, statues etc. Do we see natural ‘history’ in the same way?



ACTIVITY 6

NATURE-FRIENDLY CAREERS

We can all do what we can to give nature a helping hand in our own homes, gardens and communities. However, we may be able to have a bigger impact on nature through the job we have after we finish education. We can aim to have a 'sustainable career', which means making choices about what we do that are good for the planet as well as good for us.

Industries and big organisations can have a much bigger impact – for good or bad – on a landscape than a single person, and we can make career choices that allow us to be a force for nature in our working lives.

1. Think, pair and share activity (5 mins)

- Consider the issues that are affecting woodlands and list the human activities that are causing problems for wildlife or helping it to thrive.
- What jobs can you think of that are linked to the problems or solutions?

Some ideas that can be introduced and discussed are listed below.

Examples: Forester, farmer, conservationist, developer, architect, charcoal producer, wood carver, orchard worker, paper producer, banker, teacher, politician, engineer, shop manager.

2. Whole class discussion (10 mins)

- Go round and hear from each pair, building up a list of the jobs that could influence the health of woodlands.
- Pick on one or two and discuss the ways they have impact, and what choices they can make about how they go about their job.



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3. Think, pair and share activity (5 mins)

- Ask each pair to select one or two of the jobs on the list (you may wish to allocate them to ensure the pairs do not all discuss the same).
- What choices do we think someone following this career could make that could ensure they are doing good for nature?

4. Whole class discussion (10 mins)

Feedback from pairs.

See if the choices highlighted can be grouped at all.

Key points to emphasise:

- Choosing to work for a company that is acting responsibly (making sure they understand their impact on nature and then seeking to minimise it).
- Changing a company while working for it by ensuring it prioritises nature and reduces impact.
- Innovating (finding new ways to do things or exploring new technologies to do a job without impact on nature).
- Doing good (e.g. conservation).

For more information and free resources on sustainable careers visit

www.sustainable-futures.org.uk

USEFUL LINKS AND RESOURCES



LearnToLoveNature garden/outdoor safari
www.wwf.org.uk/learn/love-nature/garden-safari

Discover your local nature
www.wwf.org.uk/discover-nature-seek-app

Nature survey teacher guide
www.wwf.org.uk/sites/default/files/2022-10/OPLAB_BiodiversitySurveying_EducatorGuide.pdf

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Schools' Wild Challenge Habitat Heaps (log pile as a micro habitat of woodland deadwood)

Build Wildlife Habitat Heaps for School | Wild Challenge – The RSPB

Spot it! Tracks and signs
www.rspb.org.uk/globalassets/downloads/documents/kids-and-schools/spot-it-tracks-and-signs.pdf



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