



Forestry Commission Scotland
Coimisean na Coilltearachd Alba

Wolf Brother's Wildwoods

Imagining Mesolithic life in Scotland's forests and woodlands



An outdoor learning resource for teachers
of Curriculum for Excellence Level 2

With the help and support of:



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1. Introduction to this resource

1.1 About this resource

This resource has been produced to support teachers who are reading the novel *Wolf Brother* by Michelle Paver with their classes. Set in Mesolithic times, the novel is not only an exciting read but also reveals much about the lives of hunter-gatherers who lived in Scotland 10,000 years ago.

Much of the action is set within the forests of an unspecified northern European country. The characters are utterly at home in this environment, and know how to make the most of the resources the forest can offer. Understanding the woodland is therefore the key to understanding Mesolithic life.

The activities are most suitable for pupils who are working at Curriculum for Excellence Level 2, but may be adapted for pupils older or younger. Activities are designed to be carried out by a non-specialist classroom teacher.

This resource aims to:

- Bring the Mesolithic period to life through a series of woodland and classroom learning activities
- Encourage pupils and teachers to enjoy spending time in their local woodland
- Support teachers in delivering Curriculum for Excellence outcomes through outdoor learning

The content and approach is in line with new initiatives for learning in Scotland, such as Outdoor Learning and Studying Scotland.

Acknowledgements

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Thanks also to Orion Books and especially to Michelle Paver!

1.2 About the novel

Wolf Brother is the first in the *Chronicles of Ancient Darkness* series by Michelle Paver. In the words of the publisher:

'Imagine that the land is one dark forest. Its people are hunter-gatherers. They know every tree and herb and they know how to survive in a time of enchantment and powerful magic. Until an ambitious and malevolent force conjures a demon: a demon so evil that it can be contained only in the body of a ferocious bear, that will slay everything it sees, a demon determined to destroy the world.

Only one boy can stop it – 12-year-old Torak, who has seen his father murdered by the bear. Torak is an unwilling hero. He is scared and trusts no one. His only companion is a wolf cub whom he seems to understand better than any human.

Theirs is a terrifying quest in a world of wolves, tree spirits and Hidden People, a world in which trusting a friend means risking your life'.

Teachers' notes specifically about the novel with discussion points and a pupil 'survival guide' can be downloaded from the publishers' website.

The survival guide includes a map of the forest on which pupils can trace Torak's adventures. This could be enlarged for classroom use.

1.3 How to use this resource

Teachers will have different ways of using this resource, depending on how much time and flexibility is available. We encourage teachers to take a pick and mix approach, selecting activities relevant to pupils' interests and needs, and appropriate to the local outdoor environment. You may have the chance for only one visit to the woodland, perhaps as part of an extended 'camp' week, or you may be lucky enough to be able to visit the woodland on several occasions, perhaps as part of a 'Forest School'-type experience. Each activity can be adapted to work as a stand-alone activity, or as part of a sequence of more extended visits.

It is not expected that teachers will necessarily embark on a whole-scale study of Scotland in Mesolithic times. The emphasis in this resource is firmly on the novel, and on woodland activities which extend understanding of some of the themes in the novel. However, there is certainly scope for a wider study of Scotland's Mesolithic past, if you wish to pursue this. Some relevant resources are listed at the end of this pack.



1.4 Curriculum for Excellence overview of outcomes

This resource encourages teachers to develop themes featured in *Wolf Brother* in a woodland setting in order to deliver outcomes in Curriculum for Excellence. Through the activities outlined in the resource, pupils will develop across the four capacities of the curriculum.

Its initial focus is as a literacy resource. It builds on the strong narrative of the novel to engage and motivate pupils in a range of interdisciplinary learning activities. Learning activities suggest ways of linking these curricular areas for a cross-curricular programme of achievement. The main subject outcomes are summarised in the table below.

Using the principles of curriculum design

In planning our activities we have kept the seven overarching principles for curriculum design in mind, as follows:

- Challenge and enjoyment: exciting and enjoyable activities, both within the classroom and in the woodlands which will motivate pupils and inspire learning
- Breadth: a range of activities across a range of curricular areas
- Progression: activities can lead on from each other
- Depth: opportunities to drill down further into the subject of Mesolithic life
- Personalisation and choice: chance for pupils' own ideas and preferences
- Coherence: clear links between novel and woodland activities
- Relevance: emphasising opportunities for leisure activities in the woodland



Curriculum for Excellence Level 2 outcomes

SUBJECT AREA	MAIN OUTCOMES: LEVEL 2	OUTCOMES
Literacy and English	Listening and talking: <ul style="list-style-type: none"> • Tools • Finding and using information • Understanding, analysing and evaluating • Creating texts 	LIT 2: 02a, 04a, 04a, 06a, 07a, 11a, 14a, 15a, 20a
	Reading <ul style="list-style-type: none"> • Enjoyment and choice • Tools for reading • Finding and using information • Understanding, analysing and evaluating 	
	Writing <ul style="list-style-type: none"> • Enjoyment and choice • Tools for writing • Organising and using information • Creating texts 	
Health and wellbeing	Mental, emotional, social and physical wellbeing	HWB 2: 05a, 14a, 16a, 25a, 29a, 30a, 33a,
	Physical education, physical activity and sport	
	Food and health	
Social studies	People, past events and societies	SOC 2: 01a, 02a, 04a, 07a, 08a
	People, place and environment	
Expressive arts	Participation in performances and presentations	EXA 2: 01a, 02a, 03a 04a, 05a, 06a, 09a, 12a, 14a, 7a
	Art and design	
	Dance	
	Drama	
Science	Planet Earth: biodiversity and interdependence	SCN 2: 01a, 02a
Technologies	Using ICT to enhance learning	TCH 2: 01b, 04a, 04b, 12a, 14a
	Computing science contexts for developing technological skills and knowledge	
	Craft, design, engineering and graphics contexts for developing technological skills	

1.5 Outdoor learning practicalities



Before going to the woodlands with pupils, there are some common sense practical preparations which you need to carry out. Your school may already have policies and procedures in place for such a visit, or you may need to start from scratch.

The Woodland Trust, in collaboration with teachers from West Lothian Council has produced an excellent Outdoor Learning Pack for primary school teachers, as part of a project called Branching Out West Lothian (BOWL). This includes useful and practical suggestions, guidance on risk assessment, and tips for making outdoor teaching easier. The pack can be downloaded from their website (www.woodlandtrust.org.uk).

Here are some things to consider before you set off:

Permission

As a courtesy, if the woodland is privately owned you should check with the landowner before taking classes there. If the woodland is regularly used by other classes or schools, check with them or with the woodland manager (if there is one) to make sure that you are not planning to use the same space at the same time as another group.

Clothing

Make sure that pupils have come prepared with waterproofs, suitable footwear and/or sun hat so that they stay comfortable and can concentrate. Unless the weather is downright dangerous (e.g. very windy or icy), then it's good if pupils can visit the woodland in a range of different weather settings, as long as they are clothed to stay warm and dry.

Time of year

It's good if you can visit the woodland over the course of several weeks, or at different times of the year, to record differences and appreciate the challenges and opportunities of different seasons. But if you want to look at leaves, spot insects and pick nettles, then it's really best to go in spring or summer.

Risk assessment

Make sure that you have anticipated any hazards in advance and thought about how risks can be minimised by carrying out a risk assessment of the journey to the woodland and the woodland area itself. Note that risks may vary from visit to visit according to the weather and time of year; for example, if it has been very windy, there may be loose branches up above; if rainy then water levels may have risen.

Keep the parents on board

Make sure parents know where, when and why you are going to the woodland. You may need parent helpers to make up ratios. Cover yourself by getting written permission for activities, including eating carefully screened wild foods.

Adult: child ratio

Your school will have guidelines for adult: child ratios when out of the classroom. In the unconfined area of woodland, the more adults the better. However, do make sure that

all adults are appropriately briefed, and recognise that the woodland offers a unique opportunity for pupils to develop initiative, risk evaluation and exploration. Ideally you'd have the same adults each time, and ideally they would also have read the novel; as this is unlikely to be the case, make sure that they have some basic background; get the pupils to brief any accompanying adults.

Toilets

Few woodlands have their own toilets – what will happen when pupils need to 'go' when you're out? What would Torak have done? Discuss this with pupils before you set off: help them to come up with a sensible plan. Make sure that children have the chance to go before you set off. If children need to go when you are out, direct them to go behind a bush.

Be prepared

Bring first aid kit, camera, mobile phone, tarpaulin to sit on, any materials required for the day's activity, whistle or signal to bring pupils back together, water bottle, bag for litter, wet wipes etc.

Prepare pupils

Discuss any potential issues relating to working in the woodlands in advance. Get pupils to brainstorm possible risks and discuss how they might avoid them. In a public area dogs may frighten pupils; discuss how they would deal with this (stand still, fold arms, look away). Remind pupils that other people may be in the woodland and what appropriate behaviour towards them is.

When you arrive

- Gather pupils in a circle so that they can hear what you are saying.
- Identify a class 'base' and make sure pupils know where this is.
- Define boundaries clearly with pupils, either by walking around the perimeter of the area with pupils or by using clearly visible landmarks (e.g. the hedge, the big tree etc). Streamers could be tied around trees to indicate boundaries. Ask older pupils what boundaries they'd feel comfortable with.
- If there are any risky or 'no-go' areas (e.g. bog, river, rocky outcrops), help pupils identify these and get them to think about the risks.
- Agree on a signal for coming back together – e.g. a whistle, an 'owl hoot' signal.

As you leave

- Finish with an evaluation activity to round off the session. A simple round may be all that is needed: 'Today in the woods I enjoyed/learnt/discovered/saw/realised...'
- Make sure there is no litter left, or anything else which may have a negative impact on the woodland.
- Do a quick head count to check that no one has wandered off!



2. Setting the scene

2.1 The world of Wolf Brother

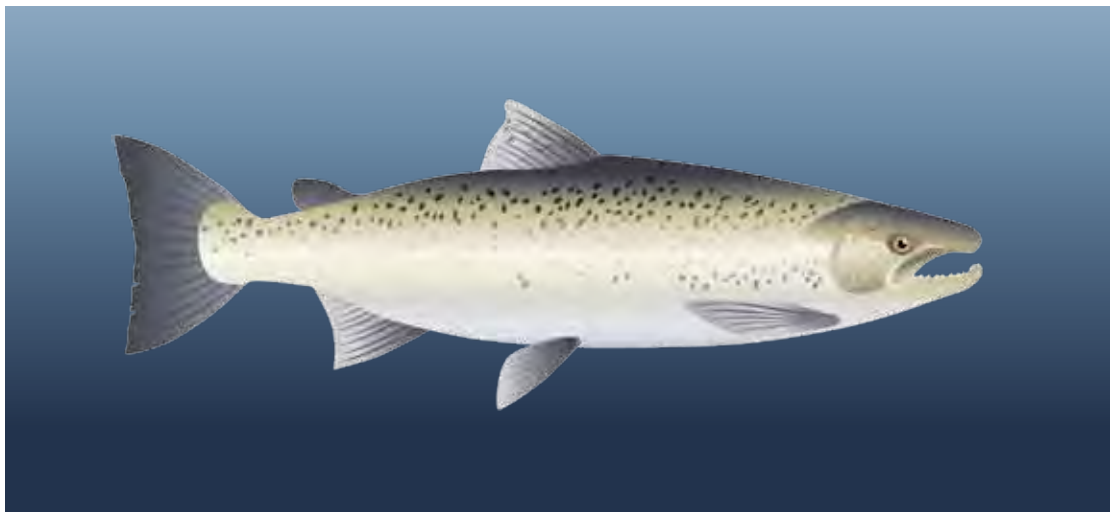
Mesolithic people in Scotland

In the [Mesolithic period](#) (9000–4500 BC) people explored and settled in the lands and islands we now identify as Scotland. At first they were pioneers in a northern landscape transformed from the effects of the last Ice Age glaciation. Widespread human occupation is visible in the archaeological record from about 8500 BC. Sites are known from all around Scotland, from the Scottish Borders to Orkney, in the Highlands at Ben Lawers and across the Hebridean islands in the west. Through time, their engagement with the natural world around them would have changed from tentative exploratory reconnaissance of new lands to an intimate and detailed knowledge of familiar places. Over the millennia, sea-levels rose, the climate changed and pine and birch forest developed into a [mosaic of mixed woodland](#) on richer and lower elevation sites, largely dominated by oak and hazel. See [Appendix 1: Scotland's landscape in Mesolithic times](#) for further information. As it was gradually occupied, the land and seascapes would have been inscribed with cultural values, built on the experience of generations and undoubtedly rich in stories, memory and meaning. This is the context for *Wolf Brother*.

Life on the move

Mesolithic peoples, such as those described in the novel, lived mobile lives responding to the seasonal availability of natural resources. Both Torak and Renn talk of moving to different parts of the forest at different times of year, to make the most of seasonal availability of salmon, for example. They regularly moved camps and lived off both the land and sea as [hunter-gatherer-fishers](#). As anatomically modern humans, the same as you or me, they skilfully exploited rich natural resources and lived through a period of profound climatic and environmental changes, with rising sea levels and even a tsunami caused by a huge undersea landslide in Norway around 6000 BC. These highly mobile pre-farming groups

Atlantic Salmon



left little physical traces of their presence. Most of their belongings were made of organic materials like animal skins, plant fibres and wood products that only survive in exceptional preservation conditions.

Woodcraft

From [archaeological sites](#) elsewhere in Britain and Northern Europe we know that Mesolithic peoples made extensive use of various woodland species, preferring certain types of wood for particular tools like digging-sticks, bows, canoes and paddles. This comes over very strongly in the novel, with numerous references to the different properties of different types of wood. Birch bark and willow basketry containers, cords, nets and ropes from this time also survive – though none have been found yet in Scotland. Fire making was very important and was also used selectively to control plant productivity and clear undergrowth. Dogs were a valued companion species (receiving special burial just like humans in some places). In France there is evidence that one group kept a tamed young brown bear – so perhaps Torak’s relationship with the wolf cub, Wolf, is not so unlikely.

Stone tools from
the Mesolithic



Making and using tools

In Scotland, preservation conditions are poor and archaeological traces of Mesolithic activity are mainly limited to inorganic finds. Sites are usually found where either chance discovery or systematic research has identified small and distinctive stone tools called [microliths](#). Often less than 20 mm long, microliths are made by crushing the edges of struck stone pieces (usually flint or chert) to form a range of geometric shapes, such as scalene triangles, triangles and crescents. Several of these pieces were then set in wood or bone/antler hafts using beeswax, pine resin or birch tar to make knives, arrowheads and other tools. When we first visit the Raven Camp in Chapter 8, we see an older woman busy making arrows. They also made stone tools like scrapers for working wood, hide and bone and used other pieces for skinning and cutting; the description in Chapter 6 of Torak processing the deer he kills is a good example of how different tools were used. Such implements were fashioned in a matter of minutes and large quantities of stone debris are created by flint-knapping in the course of a few hours. Making tools would have been an important [life skill](#) and archaeologists have even identified the efforts of beginners, probably children, learning to work stone; in Chapter 18 Torak tells Renn that he has not yet learnt how to knap flint because his hands aren’t yet strong enough.

Shelter

Structural remains of huts and shelters are more elusive although some circular dwellings partially dug into the ground are known. Some of these structures might have lasted several hundred years, being repaired and returned to and others would have provided shelter for overnight stops. Caves and rock-shelters would have also been important but few have been excavated. More common discoveries are traces of [hearths](#) or firespots sometimes associated



A 'leister'
fishing spear

with groups of stake-holes, posts and pits used for cooking and storage. The novel features many different types of shelter, from the more substantial reindeer hide shelters at the Raven Camp, to the temporary birch wood shelter built by Torak in Chapter 3. As part of their journey, Renn and Torak also shelter in caves and snow holes.

Wild harvest

Along with wood charcoal, [burnt hazelnut shells](#) are common finds and the nuts would have been an important foodstuff. Other burnt plant foods such as wild raspberry seeds, acorn husks, crab apples and plant tubers and roots all document extensive plant gathering. Large dumps of discarded sea-shells known as [shell middens](#) are found on the coast and also often contain fish, bird and mammal remains. They often preserve bone tools, antler implements like harpoons for hunting and mattocks used for digging, as well as shell artefacts such as perforated cowrie shell beads. In the interior, riverine resources such as salmon, trout and eel would have been important – and in the woodland animals such as deer, aurochs (now extinct native cattle), wild boar and predators like bear, lynx and wolf would have provided skins and furs as well as meat. It is likely that smaller animals, birds and fish were caught using snares and traps, as described in Chapter 3. People would have explored and moved around on inland waterways using canoes, coracles or maybe even reed rafts - and would have walked along animal tracks in the forest and into the mountains.

Belief and society

We know little of Mesolithic people's ideology or society, but they probably shared many traits found in modern hunter-gatherer groups, namely an ethos of sharing and beliefs that were shaped by an intimate relationship with and [respect for the natural world](#). In Chapter 6 when Torak kills his first deer, he talks of the 'age old pact between the hunters and the World Spirit'. Hunters must treat prey with respect, and in return the Spirit would send more prey'. Notions of the cultural fluidity between people and animals might have been as important as it is among many traditional foraging societies today. They likely lived in extended family groups and held periodic larger gatherings similar to the Clan Meets mentioned in the novel. Estimating the number and composition of groups is challenging and we know very little about their society, rituals or how they treated their dead. While ochre and other coloured pigments are commonly found, no art is yet known from northern Britain.

Settled communities

The Mesolithic lifestyle was one of constant adaptation to the rhythms of the seasons and to longer-term climatic and resource changes. Archaeologically, we have more questions than answers about the lives of Scotland's elusive first settlers. By 4200 BC Neolithic farming communities with pottery, domesticated animals (such as cattle, sheep and goat) and cereal crops arrived in Scotland and heralded a changing relationship with the natural world.



2.2 Learning activities in the classroom



Irish elk

The following classroom activities help to develop pupils' understanding of the context of Scotland at the time of the hunter-gatherers, when people would have lived in the way that Torak and the other clans live in *Wolf Brother*.

Ideally, read a few chapters of *Wolf Brother* with your pupils first, before embarking on any of these activities.

Back in time...

Torak and the other clans lived around 10,000 years ago: 8,000 BC. Pupils may need help in understanding what this actually means. Help pupils to grasp how long ago this is by making a timeline with your pupils. You may wish to give pupils the challenge of working out a way to show what 10,000 years ago means. Otherwise, you help pupils to do the following:

- Mark out a 12m long strip of paper into metre intervals. Pupils could mark out the strips in groups themselves.
- Close to the right hand end mark the year 2000 AD and talk about where we are today. Check that pupils know the words decade, century, millennium/millennia.
- Then, a meter to the left, mark out the year 1000 AD, and a meter to the left again the year 0. Remind pupils that this year is simply a point in time which Westerners conventionally use as a starting point for measuring time. It may help pupils to mark in the intervening centuries at 10cm intervals (1900, 1800, 1700 etc).
- Then help them to continue counting back and marking on the millennia to the year 9000 BC. This timeline could be displayed around the classroom wall.
- Around 8000 BC add the event 'Hunter-gatherers in Scotland: Torak's time.'

Hunter-gatherers in Scotland: Torak's time

Other events can be added to this timeline – for example significant events which pupils may already have studied (e.g. the birth of Mary Queen of Scots; the Wars of Independence). As a homework task pupils could try and find events to be added to the timeline.

One way of trying to make this time more graspable is to think of things in terms of generations – how many 'grannies' ago! If a grandparent was a child around 50 years ago, then a hundred years ago can be thought of as 'when my great-grandparents were children'; 150 years is 'when my great-great grandparents were children', 200 years ago as 'when my great-great-great-grandparents were children'. Some pupils really get into this challenge of 'personalising' time spans.

As pupils find out more about how Scotland's climate and landscape have changed, other events could be added which relate to the natural world (e.g. 10,000 BC: End of the Ice Age; 6,500 BC: Britain cut off from rest of Europe by rising sea level; 6,000 BC undersea landslide in Norway causes tsunami which affects Scotland; 1700s: Last wolf killed in Scotland etc)

As a longer-term plan, a timeline could be painted on to the school playground as a permanent teaching resource, or a row of trees could be planted at regular intervals to be used as a physical timeline.

Living in the woods

Talk to pupils about the way that Torak lives, his life in the forest. What skills does he need in order to survive? Do pupils think that he 'just knew' the skills, or did he learn them?

How could we best understand what it was like to live in those times? Nudge pupils towards the idea of spending time in the woodlands. Can they suggest a woodland area locally?

If the class is going to spend time there, trying to live like Torak, what knowledge are they going to need? What skills? Get pupils in groups to come up with lists of skills and knowledge.

Is there anyone in class who already has some of this knowledge or skills – perhaps from Brownies/Guides or Cubs/Scouts, or from other sources? Is there anyone who's good at identifying trees or plants? What about birds and animals? Encourage pupils to share their own knowledge and to regard themselves/each other as important resources. If there are clearly pupils in your class with good knowledge, they could be given the roles of 'tree expert' or 'bird expert' within their own Clans (see Woodland Activity 1).

Understanding Torak's woodland

A key point to help pupils grasp is that woodlands in Torak's time were different from woodland today. Not only was there more woodland but the woodland supported a greater variety of species. One ongoing activity which could be carried out as you progress with the novel is to make a note of every tree, plant, bird and animal which is mentioned. If time permits pupils could choose one of these species to research or draw to add to a classroom scene.

This list could later be compared with a list of species which pupils have identified in the woodland area they visit. Which species are the same? Why do they think the lists are different? If the animal no longer exists in Scotland, find out the reasons for its extinction. What are the threats to woodland today?

Another, longer-term project is to create a Mesolithic woodland in an area of the playground, by planting species which feature in the novel. This would be a fantastic resource for the future, regardless of whether the novel continues to be read in school.

Key tree species to focus on include:

- Oak
- Birch
- Scots pine
- Hazel
- Alder
- Willow
- Rowan
- Ash



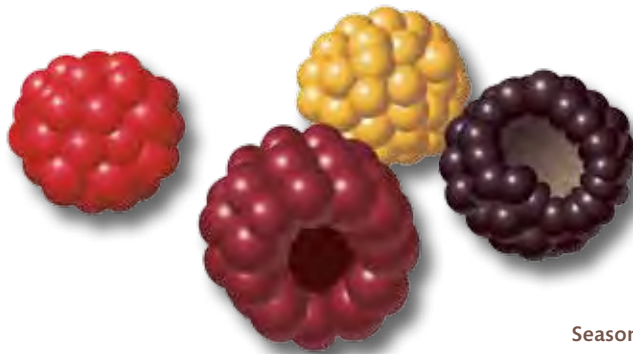
Learning to identify each of these eight species would be a good challenge for most pupils. See Appendix 2: The trees of Torak's forest for further information on each of these species.



Marking time

Pupils will quickly note how Torak and the other characters refer to time: months are known as 'moons', so that Wolf is at the start of the novel just 'three moons old'. Discuss with pupils how and why early people used the moon as a way of monitoring passing time. Encourage them to look out for the moon as you read the novel together and tune into its phases. As an ongoing homework task over the course of a few weeks pupils could plot where in the night sky they see the moon, and what shape it is. Can pupils work out how many 'moons' old they are?

In Chapter 5 we learn some of the names of the months: Moon of Red Willow; Moon of Roaring Stags, the Blackthorn Moon. Over the course of a year, pupils could develop their own class names for the months of the year, relating to what they observe happening in nature during that month, or relating to significant events which take place at that time of year.



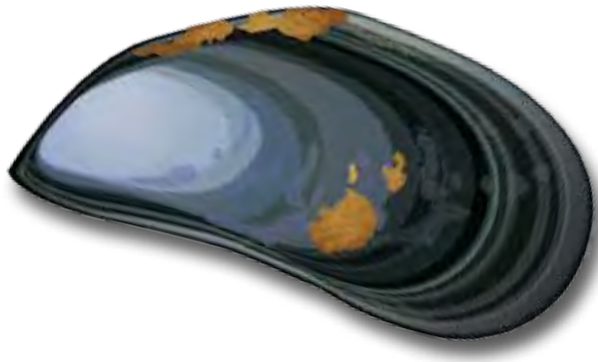
Seasonal wild fruit

Changing seasons

This leads us on to considering how the seasons affected the life of Torak and his friends. There are numerous references throughout the novel of the changing seasons and how this affects life – of trees, animals, people. In Chapter 2 Torak thinks of the different parts of the forest, and how each offers something different throughout the year – the salmon in springtime to the west, the woods to the east where the prey 'grow fat in autumn', the moors where reindeer eat moss in winter. Each season offers something different, leading to a yearly cycle of different activity, different camps. So although Torak and other hunter gatherers are often on the move, they know where they are going, and where to be at different times of year, and return each year to camp at the same place – see Chapter 7 where Renn mentions summer and autumn camps.

Modern lives are in practical terms largely immune to the seasons. Visiting the same patch of woodlands regularly throughout the year will help pupils tune in to seasonal changes. Even over the course of six weeks seasonal changes will become obvious; encourage pupils to observe and draw or photograph the same woodland patch each time to record changes in the natural world.

Mussel



Seasonal living

Today we are used to being able to eat whatever we want at any time of year; this would have been entirely alien to Torak. Help pupils find out about what foods are naturally available in Scotland's woods at each time of year:

- Spring: wild garlic, nettles, dandelion leaves, sorrel, sweet cicely, lesser celandine, elderflower
- Summer: wild raspberries, blaeberrries, wild strawberries, gooseberries, mint, sorrel
- Autumn: brambles, hazel nuts, mushrooms, elderberries, rowanberries, rosehips

By the sea, Torak and friends would also have been able to gather and feast on varieties of seaweed, crabs, lobsters, mussels and other shellfish such as limpets, periwinkles and cockles.

What did Torak do in winter? Hunting yielded birds, deer, hares as well as fishing for salmon, trout, eel and other species. Meat could be dried or smoked and eaten out of season, and caches of nuts could be stored and eaten as a source of protein. Pupils could research and develop seasonal menus, depending on what is locally available during each season.

When you are in the woods, encourage pupils to look out for food sources – berries and nuts for example – but tell them not to eat anything they find. If you are 100% certain, you could collect some to eat back at school. Readily identifiable species include: raspberries, brambles, nettles, elderflower/berries. Discuss with pupils the risks of eating unknown plants and berries, if you can do this without communicating the idea that the woodland is full of menace! Further suggestions are given in [Theme 2: The woodland supermarket](#).



Fish hook



Dugout canoe

3. Themed outdoor learning activities

3.1 Introduction

This section includes activities relating to Wolf Brother which teachers can undertake with their classes in local woodland. The activities are divided into five themes:

- Clan and family
- The woodland supermarket
- Shelter
- Tracking and hunting
- Spirit worlds

Each set of activities includes the following – though not always in this order:

- Introductory activity
- An extract from the novel which introduces the theme
- Discussion points
- Core activity
- Other options
- Classroom follow up
- Looking at the evidence



Each woodland session is designed to take around an hour to 90 minutes but could be extended through using the optional activities. With walking to and from the woodland, each session should easily fit into either a morning or an afternoon slot.

There are many great resources relating to woodland activities and nature awareness. We have drawn extensively on many published sources when developing this section of the pack, and these are acknowledged. The sources we have used most often are:

- *Forest Schools Scotland Resource* (2009) www.foresteducation.org
An excellent and very thorough resource, highlighting activities and approaches from early years through to high school. Section 8 includes practical activities, from which many of the suggested activities here were taken.
- *Celebrating Nature*, Gordon MacLellan, (Capell Bann 2007)
A wonderful, imaginative book of creative approaches to the natural world.
- *Sharing Nature with Children*, Joseph Cornell (Dawn, 1979)
A classic handbook of nature awareness activities for all ages.

All three resources provide a wealth of practical, tried and tested suggestions for woodland activities.

3.2 Clan and family

This session introduces pupils to the woodland and develops the idea of an interdependent clan. Pupils create a clan identity and a mini-camp for their clan.

If this is your first time in the woods with your class, it is recommended that you go over the boundary setting activities.

Preparation

- Identify 6–8 trees in your woodland. The key species which feature in *Wolf Brother* which are reasonably common in Scottish woodlands are: oak, birch, Scots pine, hazel, alder, willow, rowan and ash. If the woodland does not have this variety, you could have two groups identifying with each tree type.
- Collect a set of leaves from each tree, enough so that each pupil has a leaf. These leaves will be used to define groups; all pupils who are given an oak leaf, for example, will form the Oak Clan and will work together over the next weeks. If you wish to manage the composition of each group, then attach a label with a child's name to each leaf.

Materials needed

- Set of leaves from each tree, one leaf for each child. Adult supervisors could also have leaves if you wish them to be attached to a particular group.
- Double sided sticky tape or glue-sticks; card; safety pins.
- Any materials for building their mini-camp: string, scissors; fabric (leather?) to represent animal hide etc.

Introductory activity 1: Human leaf

- Give each pupil a leaf which you have collected beforehand. Tell them to look closely at their leaf and think about how they would describe it. On a signal, ask pupils to mill around and identify other pupils who have the same leaves as them. Get them to group together.
- As a group, get them to make the shape of the leaf, by holding hands and creating an outline, by lying on the ground – any way they please. Groups could demonstrate their 'human leaf' to other groups, who could try to match the shape to a set of leaves held up, or you could just get everyone to get into leaf shape all at once.
- Once this is done, tell pupils that they should find the 'home' of the leaves – i.e. the tree from which the leaves came. Pupils explore the woodland until they find their 'home tree'.



- Help pupils get to know their tree, perhaps through one or more of the Extra activities described below.
- Finally help them to identify the name of their tree through a simple field guide.

Introductory activity 2: Forming the clan

- Bring pupils back together. Get pupils to introduce their tree to the rest of the class.
- Tell them that they are going to form clans named after their trees. Remind them that in *Wolf Brother*, the clans all have distinguishing marks to tell them apart; get pupils to remind you of Torak's tattoos and piece of wolf skin and Renn's raven skin.
- What can they do to create a clan identity? Elicit suggestions and give pupils some ideas: they could make a headdress out of leaves, using card and double sided sticky tape if necessary; they could make clan badges; they could use earth to mark 'tattoos' on their faces; they could make sashes or garlands. Leaves could be pinned together using thin twigs to create 'leaf chains' (see Gordon MacLellan's activity Leaf strings in Celebrating Nature). Their marker should have some reference to their clan tree – should include a leaf, or a seed, or the shape of the leaf.
- Give them enough time to do this. To add to their clan identity, get them to decide on a clan call or signal – perhaps a shout, or clap, or stones banged together.
- Get all the clans together for a 'clan meeting' and get the clans to introduce themselves.



Novel extract: the Raven Camp

Ask pupils why they think people in Torak's time formed clans. How easy was it for Torak to survive by himself? Elicit ideas about company, looking after each other, sharing tasks etc. Reading this (edited) extract about the Raven clan camp, get them to listen for the kinds of people, and the jobs they are all doing:

'The trees opened into a clearing. Torak smelt pine-smoke and fresh blood. He saw four big reindeer-hide shelters unlike any he'd ever seen and a bewildering number of people.

On the riverbank two men were skinning a boar strung from a tree. In the shallows two girls in buckskin tunics rinsed the boar's guts, while three small children solemnly made mud-cakes. Two sleek hide canoes were drawn up out of the water. The ground around them glittered with fish scales. A couple of large dogs prowled for scraps.

In the middle of the clearing, near a pinewood long-fire, a group of women sat on willow-branch mats, talking quietly as they shelled hazelnuts and picked over a basket of juniper berries.

A little apart from them, an old woman was heading arrows, slotting needle-fine flakes of flint into the shafts. By the fire, a pretty girl leaned over a cooking-skin. Steam crinkled her hair as she used a forked stick to drop in red-hot stones. Near her, an older man knelt to spit a couple of hares'.

Wolf Brother, Chapter 8

Discuss the people and tasks; this would be a lot of work for one person to do. How do they think that work was divided up? Can we tell this from archaeology? We don't know if certain



The Raven camp

jobs were more often done by men or done by women. It's possible that 'life stage' was more important than whether you were male or female: certain jobs were more often done by younger people, and certain by older people, depending on how strong they were. Remind them what a good hunter Renn is, if pupils start suggesting that 'only men or boys hunt'.

Core activity: Building a mini-camp

- Explain that now they have their clans, they need to create a campsite – but in miniature. What kind of place would be ideal for a camp? Elicit ideas from pupils – access to water, shelter, clear space. Encourage pupils to come up with ideas for what they could include in their camps: miniature shelters; the course of a river, perhaps; a fire place.
- In their clans, pupils should find a suitable site for their camp, and organise themselves to build a mini-camp for their clan. Use natural features as far as possible – e.g. below a sheltered bank, or beneath a tree root. Twigs and leaves or pieces of fabric could be used to construct mini-tents or shelters; a miniature fireplace could be set up, and stick/leaf canoes could be placed by a leaf river.
- You may wish to teach pupils some simple knots and lashings to enable them to tie sticks together. The *Forest Schools Scotland* resource has some excellent guidelines on this on pages 113-115.
- Somewhere in the camp there should be a reference to their clan – perhaps a twig with leaves placed centrally to represent the clan tree. Give pupils enough time to allow this activity to develop and take off.
- Pupils may wish to populate their camp with people (and dogs?); Gordon MacLellan in *Celebrating Nature* outlines how to make simple 'twig people', by tying one twig across a forked twig and dressing them with leaves.

- Make sure that pupils photograph their camp, both from ground level and from above.
- Gather the clans back together, and take a tour of the camps. Discuss the features of each camp as you go round. Help pupils to realise that Torak and the members of the Raven Clan would have used the same, natural materials but on a larger scale.

Before you leave, you may wish the pupils to make journey sticks – see below. You may find that the mini-camps have been destroyed or spoilt by the next time you come to the woods, either naturally or by other visitors. Explain this away by saying that the clan must have moved on to another campsite.

Extra activities and variations

These roots of mine...

A creative writing activity from Gordon McLellan's Celebrating Nature.

- Imagine that your tree can talk, describing itself and what it does. Get pupils to start at the roots, and finish this line in any way they like: These roots of mine.....
- Some examples might be:go deep into the earth/are rough and bumpy/spread out like tentacles/ripple across the woodland.
- Work up the tree to describe other features, using the same start phrase, e.g.
 - This bark of mine...
 - These branches of mine...
 - These twigs of mine...
 - These leaves of mine...
- These could be remembered and performed by the group, or written down to display (possibly hanging from a branch) in the classroom.

Data collection

- Collect as much information as they can about their tree, to be used in creating a Tree Guide back in the classroom. They should collect details of trunk texture, colour, diameter; approximate height; leaf shape and colour etc. They could make drawings and photographs, and rubbings of the leaves and bark.

Climb a tree with your eyes

This is best done with an adult working with small groups. This is a calming, almost meditative activity.

- Get pupils to lie on their backs with their heads at the foot of a tree. Get them to shut their eyes and listen to the sounds around them, so that they calm down.
- Then pupils open their eyes. Tell them that they're going to climb a tree with their eyes.
- Get pupils to start looking up the tree trunk, crossing big branches, thinking about what they can see. 'Climbing' higher, pupils choose a branch.
- With their eyes, they follow along to the end of the branch, to a smaller branch, and another smaller branch, to a twig, and another twig and a leaf...



- Pupils can imagine themselves high up in the tree, bouncing on a leaf, before reversing the process, and climbing carefully back down again.

Naming of trees

- Remind pupils that in *Wolf Brother*, Wolf in particular has different names for things; he calls Torak 'Tall Tailless' for example. What might they call their tree, based on how it looks, or what its properties might be? A pine might be 'Bending whisperer' or a rowan with berries might be 'Scarlet Berrygiver'; an old oak could be 'Twisted strength'.

Stepping stones to special places

- Pupils create a natural trail, out of carefully placed stones, leaves, flowers which leads from the central base to 'their' tree.
- Other pupils follow the trail to reach the tree.



Journey stick

Journey sticks

This activity is outlined in the Forest Schools Scotland Resource, p109.

- This activity is based on a native American idea of a 'story stick'. It is a popular way of creating a 'natural' record of a journey or a day's activities. Pupils could make one on their first woodland day, and then add to it each subsequent day.
- Explain that they are going to create a record of their time in the woods – but using only woodland objects. Pupils find a stick, up to 50cm long. Each pupil is given lengths of natural string or wool which they wrap around the stick, fastening it securely.
- Pupils collect objects which have significance to them of the day's events – leaves, pieces of bark, feathers. They tuck or tie these objects under the string so that they are attached to the stick.
- These can be taken back to school, and used as a reminder between sessions, and brought back the next time. They become a visual diary of the time spent in the woods.

Camp life: drama activity

- Either before or after creating mini-camps, you might like your pupils to get 'into role'. Read them the extract again, and as you do so, pupils mime the activities as you read them.
- Then get them in pairs to choose one of the activities mentioned. Remind them that both men and women can do any activity. Think about what would have happened leading up to the activity – e.g. the people skinning the boar would have hunted the boar, killed it, brought it back to camp, hung it up etc. Develop mimed actions for each of the stages. Then think about what might have happened afterwards. Repeat the mime activity.
- In groups, one pair at a time presents their actions. On a given signal, the actors freeze and hold their movement. They could be tapped on the shoulder, and asked for their 'thought bubble' of the character at that moment, before continuing.
- A variation of this could be that one is the expert, teaching the other how to do it properly. This may require additional research to be done back in class.

Trust the clan!

- To develop the idea of interdependence within the clan, you could play some trust games with the class, either in groups or with the whole class. The *Forest Schools Scotland Resource* (pages 103-104) has some suggestions. One has the whole class holding on to a rope in a circle, and then slowly leaning back, so that the whole class is supported by the rope.
- Another variation is for the class to form a circle, one behind the other, and then all sit down at a given moment on the knees of the person behind them. How long can they support each other?

Classroom follow up

Tree guidebook/biography/passport

- Get pupils to write their own guide to a particular tree, using the data they collected in the woods. They should give details of trunk texture, colour, diameter; approximate height; leaf shape and colour etc. They could include drawings and photographs, and rubbings of the leaves and bark. These could be combined into a class guide to the woodland. Alternatively this could be presented as a passport, a biography, or a Wanted poster ('Have you seen this tree? Wanted – for constructing bows and making baskets...')
- As you proceed with the novel, pupils could listen out for how the tree is used by Torak and others. This use could be included in the guidebook. Further folklore and traditional uses can be found in the book *Flora Celtica*, by William Milliken and Samuel Bridgewater.

Cartoon strip

- Pupils could draw and create a cartoon strip based on the clans in their mini-camps. This could provide a focus for research into every day life in Mesolithic times.

Mapping

- Use the photographs taken of their camps to create a map of the campsite, similar to the maps of the woods at the front of *Wolf Brother*. This could include natural features which they could name. The maps could be blown up and displayed in the classroom as a backdrop to other work by the clan group.

Looking at the evidence

It's hard to find evidence for the camps of Scotland's hunter-gatherers, as the campsites were largely built of material which has long since rotted.

One way of knowing where people like the Raven Clan camped is through their rubbish heaps, known as 'middens'. Mounds of bones, shells and fish bones have been found in some coastal areas, and archaeologists believe that these were left by hunter-gatherers around 6-7000 years ago. These middens provide the evidence for where people had their seasonal camps, and also for what kinds of food people ate and the time of year.

Discuss:

- How do you think that archaeologists know that these heaps were put there deliberately?
- What can you work out about the people who left this pile of objects behind them?
- What could archaeologists of the future work out about you and your family from the rubbish you throw away?



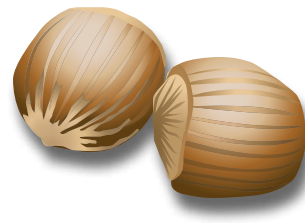
Wild boar

3.3 The woodland supermarket

This session opens pupils' eyes to the variety of plants and trees in the woodland, and looks at how early people used the woodland to meet their needs. Pupils will have the chance to use nettles to create cord – and possibly soup.

Preparation

- Collect 10 objects – see below
- Practice making nettle cord – see instructions below
- Check availability of nettles on site



Hazel nuts

Materials needed

- A selection of 10 or so natural objects (leaves, sticks, pine cones, flowers etc) which you have collected in advance from the woodland; two cloths, one to place the objects on, and one to cover them with (you could use a jacket).
- A piece of string (not essential).
- An area of woodland with nettles growing in it – or bring some bags of nettles from elsewhere.
- Pupils need to bring gloves with them in order to handle nettles.

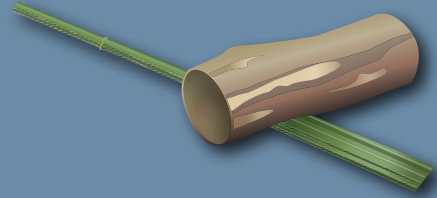
Introductory activity: Torak's game

This is a variation on the traditional memory game – Kim's game. It is based on an activity called Duplication in Joseph Cornell's book, *Sharing Nature with Children*.

- In advance, lay out your ten objects on a cloth, and cover them.
- Make sure all pupils can sit or stand where they can clearly see the cloth. Tell pupils that they need to be aware of their surroundings and develop their powers of observation. Tell them that under the cloth are ten natural objects. They will have half a minute to look at the objects and try to remember them all. Then they are going to try and find objects exactly like them.
- Remove the cloth, and give pupils the chance to see the objects for about half a minute. Then cover them again.
- Pupils scatter and have about five minutes to remember and find objects exactly like the ones on your cloth. They may prefer to do this in pairs.
- Call them back together. How did they get on? Pull out each of your objects in turn, and get pupils to hold up their version as you do so. Get pupils to compare their versions – are they really the same? What are the differences?

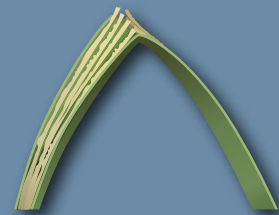
Making nettle cord

1. Lay the nettle on a hard surface and gently bash it with a stick or flat stone to soften it all the way down. If you bash it too hard you'll break the outside and it won't be useable.

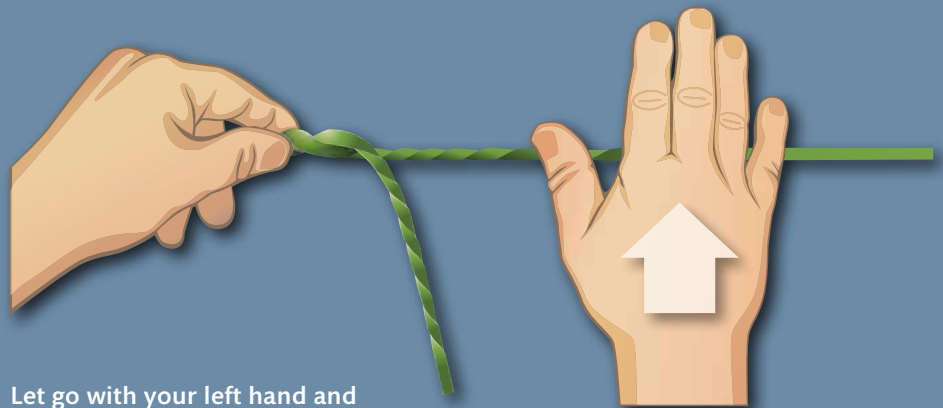


2. It should now be possible to open up the nettle so that it lies flat.

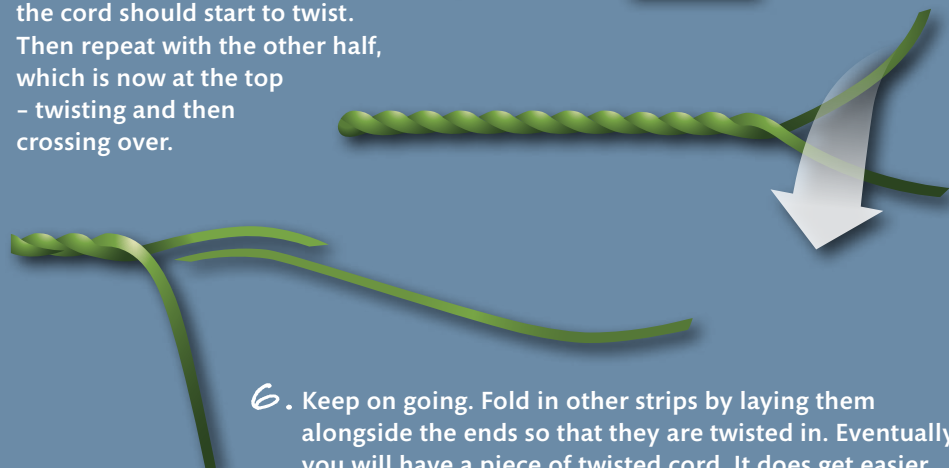
3. Open it out and peel away any of the 'inner' so that you are left with the flat green outside 'bark' of the stem. Separate this into long thin strips.



4. Kneel down. Fold one strip into unequal halves. Lay it against your left thigh, holding the fold point with your left hand. Roll or twist the topmost right hand end away from you and then cross it over the other half towards you.



5. Let go with your left hand and the cord should start to twist. Then repeat with the other half, which is now at the top - twisting and then crossing over.



6. Keep on going. Fold in other strips by laying them alongside the ends so that they are twisted in. Eventually you will have a piece of twisted cord. It does get easier with practice!

- How many did they find? Congratulate those who remembered and found many objects.
- Now ask them to think about how Torak might have used the objects. What might he have used a leaf for, for example? (in Chapter 1 he carries water for his father in a dock leaf). How about a piece of bramble thorn? (in Chapter 3 he uses bramble thorn as fish hooks).

Novel extract

Remind pupils that everything that Torak wanted, he had to make or find for himself from the woodland. The woodland was his supermarket – where he found food and materials for making shelter and tools.

'Torak thought of the golden birch and the scarlet rowan, and the brilliant green oaks. He thought of the teeming prey; of the lakes and rivers full of fish; of all the different kinds of wood and bark and stone that were there for the taking if you knew where to look. The Forest had everything you could ever want'

Wolf Brother, Chapter 14

Get the pupils to give you examples of the kinds of things that Torak and Renn make from the natural things he finds in woodlands.

Core activities: Making nettle cord

- Pull a piece of string out of your pocket. What could you use string for in the woodland? Remind pupils that Torak wouldn't have had string – so what could he have used? Elicit ideas from pupils – he uses a tree root to build a shelter, and is tied up with a strip of rawhide in the Raven camp. Then show them a piece of cord which you have made in advance from nettles.
- Divide pupils into their clan groups, each ideally with an adult supervisor, who can show pupils how to make cord out of nettles.
- Get pupils to put on gloves and pick three or four big nettles, as far down the stem as possible. Pull off all the leaves and the hairs on the stem. After this they should be safe to touch. Now follow the instructions in the diagram opposite.
- What can pupils make this into? Some suggestions are: Friendship bracelets, cords for a necklace, a tie for a bag, a fibre for weaving a flat mat (Renn weaves herself a hood when it's wet), cord for lashing together branches.
- At the end, bring everyone back together and see what pupils have come up with.
- Discuss the set of skills necessary to survive in Mesolithic times. What skills does Torak's father teach him in order to survive? Do you think you could learn these skills? What skills do you need to survive in today's world?
- If any pupils finish early or are looking for an extension activity, get them to try making string using fibre from other plants. Is nettle better than any other?

Extra activities and variations

Torak has grown up with the woodland. He knows it intimately, knows all the trees, their properties and uses. There are numerous other activities which you could do with your class to help them get to know the woodland and become more familiar with identifying key species:

Tree quest



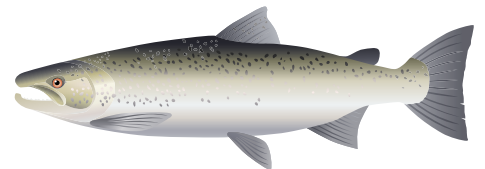
- Tell pupils that they are going to see how many different trees they can find in 10-15 minutes. Let pupils explore the woodland in pairs, collecting one small leaf from each tree. Come back together and compare leaves, seeing how many species you have found between you. Does anyone know what kind of trees the leaves come from? Alternatively, they could take photographs of each different leaf type.
- Let pupils glue their leaves into a notebook, each on a separate page, and help them pool knowledge or use a simple field guide or poster to work out the names of each.

Another variation is to give pupils a drawing/photo of leaves and/or seeds of a tree on a card, and tell them to see if they can run off and find it. Again, they should bring back one small leaf as evidence.

Meet a tree!

- This activity is designed to get pupils to engage senses other than sight to explore a tree. It comes from Cornell's book *Sharing Nature with Children*, and is described in the *Forest Schools Scotland* resource, page 104.
- Pupils work in pairs. One is blindfolded. The other gently leads him/her through the woods towards one of a particular group of trees. The blindfolded pupil explores the tree, by touching the bark, feeling the width, smelling the tree, listening to it, feeling down to the bottom of it to see what grows at its base, stretching up and around to feel any branches. The partner could hand him/her leaves to handle. Then the blindfolded pupil is led back to the start point and the blindfold is removed. S/he then has to try to recognise his/her tree again, this time by sight alone.

Classroom follow up



Wild food

- In springtime, pick fresh nettle tops and take them back to school to make nettle soup: recipes are easily sourced on the web, or can be found on page 141 of the *Forest School Scotland* resource.
- Other foods which can safely be eaten include brambles, blaeberrries and raspberries. It's also easy to find elderflowers in spring, which can be used to make elderflower cordial very easily. Pupils should not eat anything they find in the woods; if they find anything which you recognise as being 100% edible, you can pick a small sample and bring them back to school to be washed and then tasted. Cover yourself by obtaining parental permission for pupils to eat carefully screened wild foods in a supervised setting.

Mesolithic objects

- Pupils can search for photographs of objects from the Mesolithic time on websites such as SCRAN (www.scran.ac.uk). There are often photographs of high quality replica items too.
- Pupils can identify the materials used to make each object. A display could be assembled showing samples of the materials (e.g. birch, hazel, moss, slate) labelled with what they were used for by hunter-gatherers.
- As you progress with reading the novel, pupils can look out for the mention of particular materials and what they were used for; relevant extracts can be added to this display.

Leaf games

- If you want to develop pupils' awareness of tree and leaf types, SNH have produced a series of classroom activities based on leaves. They include making rubbings of leaves to use in artwork, making 'leaf tiles' from salt dough using the impression of a leaf, and making sets of 'snap' cards to reinforce recognition of leaves.



Looking at the evidence

Most items made of wood or other plant materials found in the forest, such as nettles, has not survived. Archaeologists have to build up a picture based on what things have survived, and their knowledge of the local environment.

Archaeologists have found stones which they believe were used to cook food. Stones were heated until red hot in a fire, then dropped into a container of food. The heat from the stones heated the water to boiling point. You can see this in a short video on www.scran.ac.uk ('cooking in a deer hide pot').

We know that hunter-gatherers did not make clay pots for cooking, so it is likely that they used containers made from deer hide for heating food. It is highly likely that people in Mesolithic times made a whole range of containers such as willow baskets, or from cord made from plant fibres, roots and birch bark. Basketry from this period is very rare and only survives in waterlogged conditions.

Discuss:

- What kind of things would you have to learn to survive in the forest like Torak?



3.4 Shelter

In this session pupils discuss and build simple shelters.

Materials needed

- String or rope
- Tarpaulins or large pieces of fabric
- A good supply of woodland branches, sticks, twigs etc

Introductory activity: Animal shelters

As pupils arrive in the woods, get them to check their clan area. What has changed since the last visit? Has anything gone? Has anything new appeared? Have any colours changed?

Remind pupils that the woodland is home to countless creatures. Each one of them makes its home somewhere in the woodland. Tell pupils to go off for five minutes, and see how many different places they can find animals or creatures sheltering - quietly, without disturbing creatures. When they come back together get them to share some of the different places they found animals - e.g. under stones, under wood, below leaves, in holes etc.

Discuss why creatures need shelter: elicit ideas about protection from heat/cold/wet, protection from predators.

Novel extract

Ask pupils what kind of shelters Torak and his friends use in the novel. Remind them of the following (depending on how far through the novel you are by this stage):

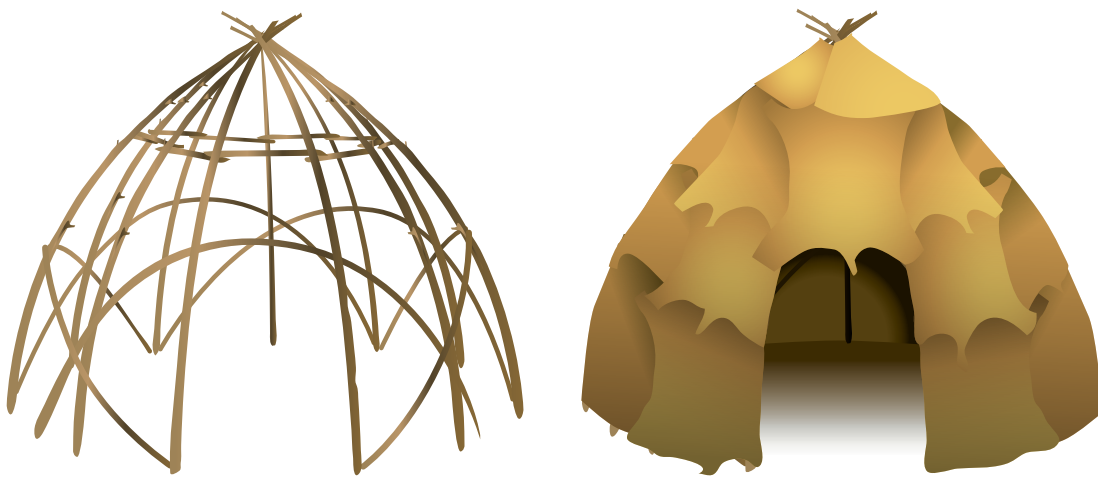
- Chapter 3: Shelter made from branches
- Chapter 8: Reindeer hide shelters
- Chapter 16: Cave
- Chapter 25: Snow hole

Read the following extract to pupils, and ask them to listen out for what Torak uses to build his shelter.

'Torak needed to build a shelter. He looked around for deadwood, but the flood had washed most of it away. He'd have to cut down some saplings...Pulling his axe from his belt, he went over to a clump of birch and put his hand on the smallest. He muttered a quick warning to the tree's spirit to find another home fast, then started to chop. The effort made his head swim...He forced himself to keep chopping...When his arms had turned to water and he could chop no more, he saw with alarm that he'd only managed to cut down two spindly birch saplings

and a puny little spruce...He lashed the saplings together with a split spruce root to make a low, rickety lean-to, then he covered it on three sides with spruce boughs, and dragged in a few more to lie on. It was pretty hopeless but it'd have to do. He didn't have the strength to rain-proof it with leaf mould. If it rained, he'd have to trust his sleeping sack to keep him dry and pray that the river spirit didn't send another flood...'

Wolf Brother, Chapter 3



This shelter is a wood frame covered with animal skins

Core activity: Shelter building

Explain to pupils that they need to build shelters today in their clans, using what they can find around them in the woodland. It should be big enough for the whole group to fit into and provide a bit of shelter from the rain and sun.

If you have concerns about pupils constructing life-sized shelters, if time is tight, or if there is a shortage of large pieces of deadwood, then the activity can just as well be done by getting pupils to build 'half-sized' shelters – i.e. no higher than (child) waist-height.

- To help them gather their ideas first of all, remind them of the mini-camps they made. Get them to work in pairs in their clans to build some 'mini shelters' just a few inches high, using twigs, leaves, stones – anything they can find around them. This will help pupils to think about the range of possibilities.
- As a group they should review all the mini shelters to see if this gives them any ideas for building a shelter which they think would work in their clan area. Encourage them to use existing trees or landscape features to build their shelters around. Get them to agree on a location and a type of design.
- Give pupils some guidelines as to what materials they can use; unlike Torak they should not cut branches from living trees; instead, they can use what deadwood they can find on the ground. Help them to make safe decisions about lifting large branches, and to develop their own health and safety rules. It is ideal if each group can have the help of an adult supervisor in this activity.

- If you wish, you can give pupils some additional materials: string or rope for binding, tarpaulins to represent deer hide. You may wish to teach them some basic knots.
- If possible, get one child to be the official photographer and take pictures of each stage of the shelter building.
- Help pupils think about what they can use to make their shelter weatherproof. How can they keep themselves dry if they had to lie or sit down on the ground?
- Further advice about shelter building can be found in the *Forest Schools Scotland Resource*.
- When the shelters are complete, or when time is up, let each clan give a guided tour of their shelter. Get pupils to comment on good points about each shelter – or how it could be improved. Together get them to think about which shelter:
 - can accommodate most people
 - is the most hidden from predators
 - is the most rainproof
 - is the most likely to last
- Get pupils to gather in their clans in each shelter. Is there room for everyone to lie down? Get pupils to lie down and close their eyes. What would it be like to spend a night in their shelter? If the weather and the pupils' waterproofs are up for it, you could try testing the waterproof qualities of their shelter by squirting the shelter with water...

Discuss why they think that archaeologists have found very few traces of hunter-gatherers' shelters in Scotland, even though they know that people were living here (temporary structures made out of organic materials which have rotted away).



Extra activities and variations

All mod cons

- Pupils could make basic furniture for their shelters – chairs, shelves etc. Get them think about what is really necessary.

Decoration

- Pupils could decorate their shelters to make them look attractive, by using leaves, different coloured woods, flowers, patterns of stones round the outside etc

Decorative weaving

- Pupils could place sticks in the ground like railings, and then weave thinner sticks and leaves between them, as a decorative boundary marking.



Classroom follow up

Leaflet

- Use the photographs taken to produce a short leaflet on *How to build a shelter*.

A night in the shelter

- Pupils can write a short diary entry, imagining spending a night in the shelter.

Looking at the evidence

We have little evidence to tell us how people like Torak built their shelters in Scotland, or what their shelters were like. Very occasionally archaeologists find traces of wooden posts and stake-holes which went into the ground. But this in itself is evidence: they must have built homes out of materials which have since rotted, or used naturally-forming shelters such as caves or rock shelters.

Some people have experimented with making more permanent shelters, using tools, materials and technology known to be around 8000 years ago.

Discuss:

- If you can't find any evidence of houses or tents, what other evidence might tell you that hunter-gatherers had once had their camp at a particular place?
- Why do you think hunter-gatherers gradually stopped moving around, and settled in once place?

3.5 Tracking and hunting

In this session pupils are encouraged to use their senses to pick up signs of wildlife in the woodland.

Preparation

Materials

- Ropes or string around 2-3 m long, enough for each pair or small group.
- Paper or card; something to lean on; pencils for each pupil
- A reward for a trail activity; this might be an apple, a wooden bead etc – something clearly not belonging to the woodland, but which is not a problem if it isn't found.
- Digital cameras, one per pair if possible; if not, then an adult can work with a pair at a time to make sure everyone gets a go

Introductory activity: Microhike

This activity is from Joseph Cornell's *Sharing Nature with Children*, and opens pupils' eyes to the woodland world at their feet.

- Give each pair or group a string or rope. Get them to cast the string on to the woodland floor and explain that it will act as a nature trail in miniature.
- Pupils get down on stomachs or hands and knees, and crawl along the line of the rope, looking at what they encounter, from this ant's eye view. Who do they meet on they way? What is the most memorable encounter?
- They could put natural 'trail stops' (e.g. twigs or particular leaves) along the string to mark particularly interesting things to look at, and invite another pupil to enjoy their nature trail.
- Variation: give pupils small mirrors or magnifying glasses, to alter their perspectives as they explore.
- Back together, discuss what pupils saw in the world at their feet.

Novel extract: Torak hunts the buck

Discuss the different ways that Torak finds food; mostly he gathers and collects food, but sometimes he hunts. Which is easier? Why do pupils think he does both?

'They'd been tracking the buck all day. All day, Torak had followed its trail of bitten-off twigs and cloven prints: trying to feel what it was feeling; guessing where it would go next. He knew that you must stop often to listen; to open your senses to what the Forest is telling you.'

Right now he knew that the roe buck was tiring. Earlier in the day, the cleaves of each small hoof-print had been deep and splayed, which meant it had been galloping. Now the cleaves were lighter and closer together, it had slowed to a walk.

It must be hungry, because it hadn't had time to graze; and thirsty, because it had kept to the safety of the deep thickets, where there was no water.

Torak glanced about for signs of a stream. West through the hazel, he glimpsed a clump of alders. Alders only grow near water. That was where the buck must be heading.

Softly he and the cub moved through the undergrowth. Cupping his hand to his ear, he caught a faint ripple of water.

Yes, there. Through the alders. The buck stooping to drink.

Carefully Torak took aim.'

Wolf Brother, Chapter 8.

Explain that today they are going to hunt for wildlife in the wood using a number of different activities.

Core activities

Sound maps

- This activity is described in Forest Schools Scotland Resource, page 111. Give each pupil paper, something to lean on, and a pencil, and tell them to mark an X in the centre of the paper. Tell them that they are going to listen out for signs of wildlife first and create 'sound maps'.
- Each pupil goes off to find their own 'listening spot' and settles down comfortably. The X marks where they are sitting. They should listen.
- When they hear a sound, they should make a mark on the card to represent the sound, and where it's coming from – for example, if they hear short cheeping from a bird, they could make a series of marks. If they hear a long drawn out sound, they could make a longer mark. The closer the sound is to them, the closer to the X it should be marked.
- Let pupils listen for about 10 minutes or so, before drawing them back together and comparing sounds.
- How many of the sounds were from wildlife? Did they hear the same sounds?

Following the sound

- This is repeated with another pupil hiding.



Spotted woodpecker

Following the trail

Torak is particularly good at tracking. Here pupils are going to lay a natural trail, and then follow one.

- In pairs, pupils think of a natural sign which they can make and repeat clearly. This could be a leaf pinned to the ground with a stick, a piece of moss twisted round a branch etc. Give each pupil a 'reward' – which is the 'prey' at the end of the trail. This could be an apple, a symbolic bead etc.
- Pupils then have about 15 minutes to lay a trail through the woodlands, starting at the base, and leaving their mark roughly every 3 metres. At the end of the trail, by the last sign, pupils leave the reward before returning to base.
- Pupils swap with another pair, and then follow their trail to find the reward. This activity can be repeated as often as pupils are interested, as pupils swapping with different pairs to follow different trails through the woodland. The reward should be replaced at the end of every trail. Following the trails may become easier as pupils leave footprints etc – encourage them to observe these signs.



Photography safari

Pupils look for and photograph wildlife. If only one or two cameras are available, get one of the supervising adults to work with pairs of children at a time, pulling them away from other activities for a short time.

- Have pupils come across any signs of animals or wildlife in the woods? They may have seen slug or snail trails, heard birdcalls, found traces of pinecones nibbled by squirrels. Share these signs together.
- In pairs, pupils go off on a 'mini safari', armed with cameras if possible. Their aim is to try and spot real wildlife and 'capture' them in a photograph. In practice this is likely to be insects. Encourage pupils to sit still, looking and waiting to see what emerges before photographing.
- Afterwards, discuss what skills they had to use to take the photographs. Many of the skills of a wildlife photographer – watching, waiting, stillness – are the same skills which Torak and early hunters would have had to develop too.

Predator and prey

This game is a fun way to finish a session. It is adapted from an activity in Joseph Cornell's book *Sharing Nature with Children*.

- Get pupils to think of a predator from Torak's time – for example a fox. What animals would be his prey? (for example, a hare).
- Stand in a circle. Choose two children and blindfold them. One is the predator, the other the prey. The two children stand in the middle of the circle and move around. The predator tries to listen hard and catch the prey by tracking him/her down and 'tagging' him/her. The prey has to listen for the predator and move away. If they go too near the edge of the circle, the children in the circle should gently guide them back. The other children should try to keep as quiet as possible.
- Next time, the predator could become the prey of something else, to reinforce learning about food chains.
- You could experiment with getting either 'animal' to carry a bell or something which makes a noise, adding additional prey or predator species, getting both animals to make a noise at certain times, by making the circle bigger or smaller etc.



Classroom follow up

Photographs

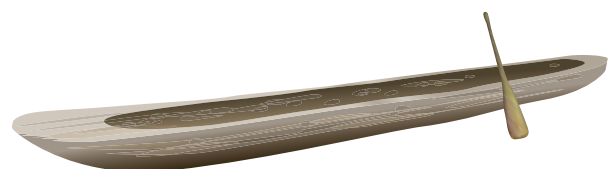
- Print out the best of the photographs taken in the mini safari. Help pupils identify the insects or other wildlife where possible. To continue the theme of predator and prey, find out what preys on this particular species, and start drawing up a woodland food chain.

Extinct in Scotland

- *Wolf Brother* features many animals now extinct in Scotland – bear, aurochs, wolf etc. Pupils could choose one of these animals and research why and when they became extinct. What impact did their extinction have on other species? The number of deer, for example has risen in the absence of natural predators such as wolves.
- Draw up a food chain from the past – and compare this to the food chain of the woodland today.

Woodland sculptures

- A much bigger project would be to create life size models of some of the extinct creatures, out of basketry or willow. These could be placed in the woodland for others to enjoy. There are many suppliers listed online, together with suggestions for designing and making your own sculptures.





Making use of every part of the deer

Every part of the deer

- After killing the buck Torak has to keep his hunter's pact with the World Spirit by 'not wasting a thing'. Chapter 6 includes a very detailed passage outlining all the different parts of the deer, how Torak processes them, and what each is used for.
- Pupils could try to identify where each material comes from. Using the extract in this chapter, they could list what each part could be used for.

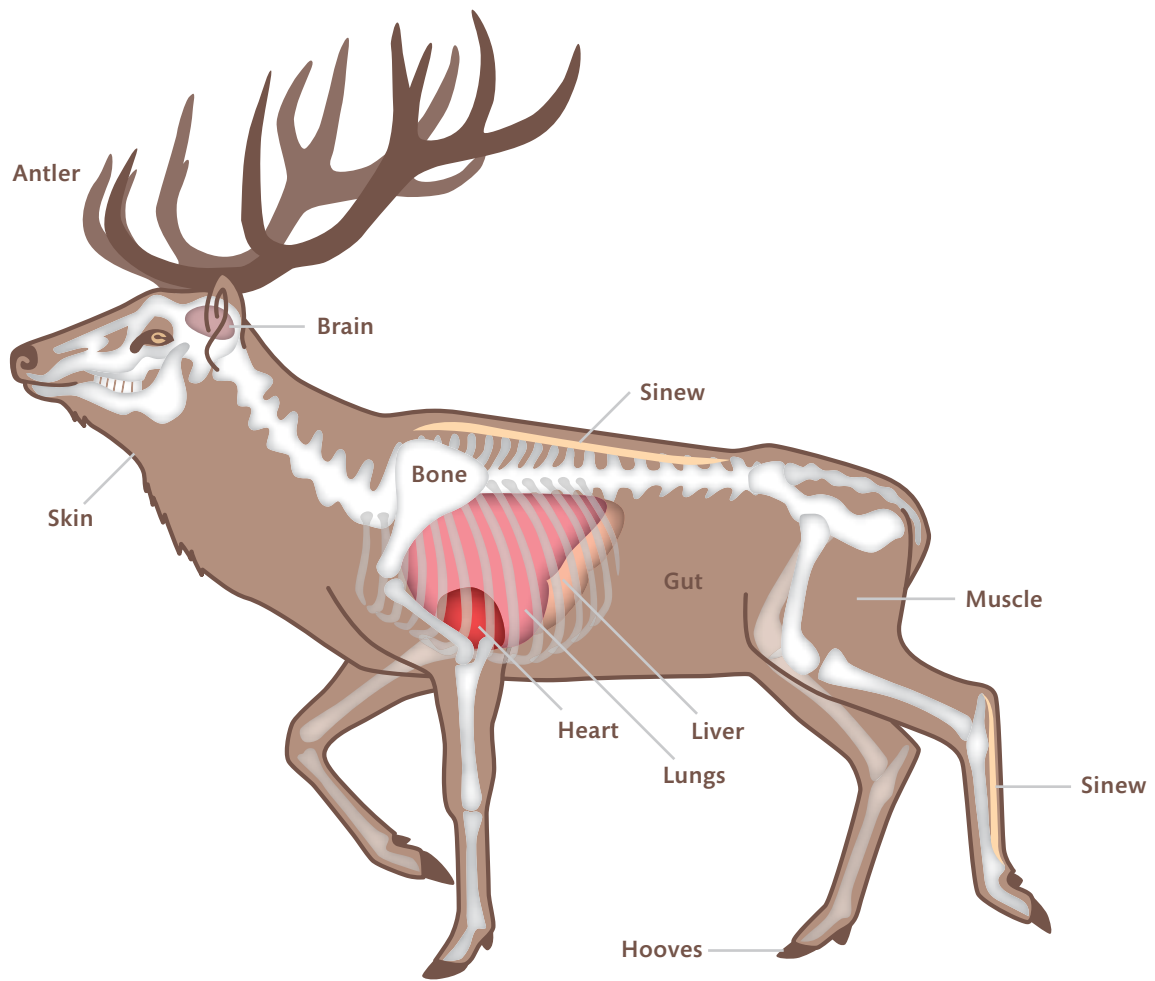
Writing 'Kennings'

This creative writing activity is described in Gordon MacLellan's book *Celebrating Nature*. A Kenning is a phrase or poem which describes 'knowing' about something, as in the Scots word 'ken'.

- Pupils choose an animal, bird or even tree, and think of a way of describing it using word pairs such as (describing a Wolf): moon howler, path tracker, silent hunter or swift killer.
- These phrases can be adapted and/or run together to form riddles, which can be read aloud for others to guess: "I am a moon howler, path tracker, silent hunter and warm friend. Who am I?"

Hunter and Hunted

- In Chapter 5 Torak is the hunter – but in Chapter 12 he is himself being hunted. Pupils write an imaginative account of either being on a hunt or being hunted, using the novel as a model and their experiences in the woodland activities of hunting or being hunted.
- Alternatively, retell the story of a hunt orally, with each pupil adding a section. Pupils could practise telling a story in groups, and then record it with sound effects.



Torak's uses for parts of the deer

	MUSCLE	BONE	HIDE	ANTLER	SINEW	ORGANS	FAT	HOOVES
FOOD	✓					✓	✓	
TOOLS		✓	✓	✓	✓			✓
LEATHER			✓					
TANNING			✓			✓	✓	
CLOTHING			✓		✓			
THREAD			✓		✓			
SHELTER			✓		✓		✓	
LAMPS							✓	
MEDICINE					✓	✓		
GLUE								✓
CONTAINERS						✓		



The hunt

- A hunt offers fantastic opportunities for dance, music and drama. Pupils could develop a series of movements relating to animals, to hunters, to the hunt, the kill, the 'death ritual' as described in Chapter six, the celebration and the feast.
- This could be accompanied by music. It could even be performed in the woodland!

A record of the hunt

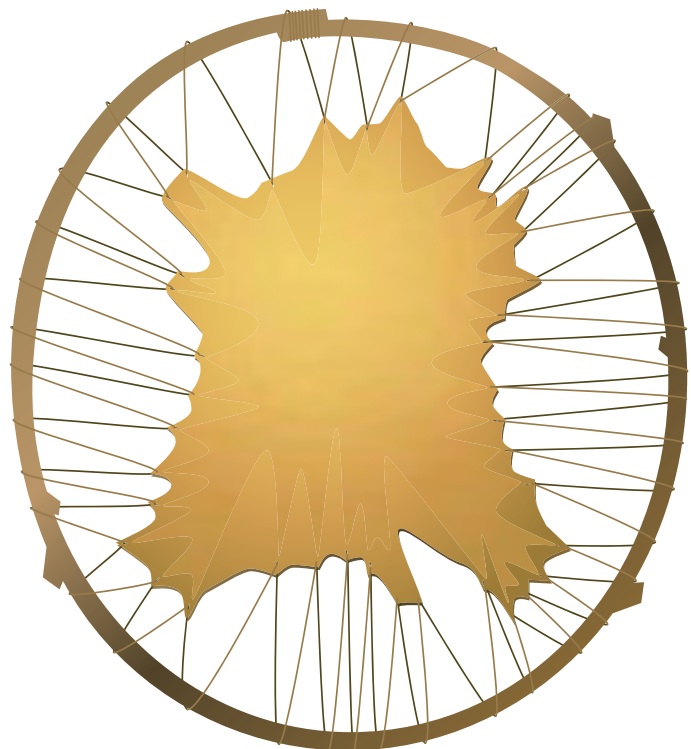
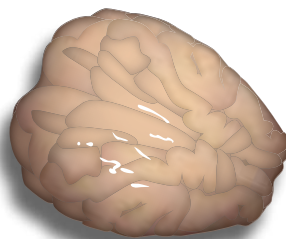
- The cover of the novel shows a hunt in progress, in the style of cave paintings.
- Look at more paintings (none from Scotland!) of other hunter-gatherer societies; many feature hunts. Pupils could create their own 'cave paintings' recording their hunt.

Discuss:

- What parts of this tool have obviously not survived?
- What other materials must have been used to make the harpoon?
- What other items connected with hunting would people have had which have not survived at all?

Pupils could choose one type of hunting tool (e.g. a spear, harpoon, bow and arrow) and research how it was made.

Deer hide was stretched and scraped, then tanned using the oils from organs such as the brain



3.6 Spirit worlds

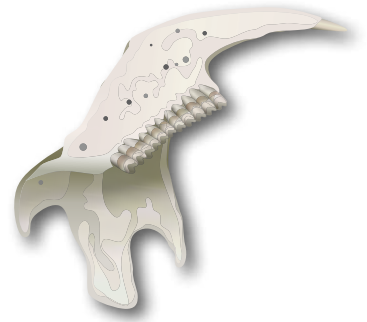
Materials needed

- a fist-sized blob of reasonably soft clay for each pupil or pair of pupils.

Introductory activity: 4-shout

This game comes from Gordon MacLellan's book *Celebrating Nature*.

- Get the pupils to get into groups of 4, link arms and stand in a line.
- Tell them to take 4 big steps together, counting out loud.
- On '4', pupils stop and each pupil calls out the name of something he can see, all at the same time.
- Then straight away pupils continue with another 4 steps, then stop, then call out, but this time they must should the name of something different.
- They continue for a few minutes, moving around the area, and calling out different things each time.
- This can be a good way of adding interest to a walk, for example if you're heading back to school.
- Finally get pupils back together. Roughly how many different things did they see? What was the most unusual thing they saw? Did they notice anything they'd never seen before?



Novel extract

People in Torak's world believed that all natural things had their own spirit. Can pupils remember any examples of the spirits?

'Torak knew that clan guardians watch over campsites and that ghosts moan in leafless trees on stormy nights. He knew that the Hidden People live inside rocks and rivers, just as the clans live in shelters. As for the World Spirit, who sends the rain and snow and prey, about that Torak knew least of all. It was too remote: an unimaginable powerful spirit whom no-one had ever seen, but who was said to walk by summer as a man with the antlers of a deer, and by winter as a woman with bare red willow branches for hair.'

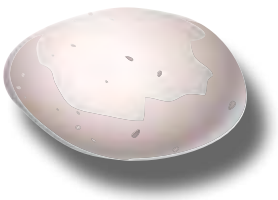
Wolf Brother, Chapter 5

- Discuss with pupils why Torak and the other clans believe that their world was full of spirits and demons (their way of explaining the natural world and events around them). Possession by demons would have been a perfectly acceptable explanation for the behaviour of a rogue bear, for example.
- Why do they think it important to keep on the good side of the spirits? Get pupils to give you examples they can remember from the book of showing respect to the spirits: Torak warns the tree spirit to find another home before he cuts the tree down (Chapter 3); he thanks the World Spirit for sending him the buck to kill and promises to treat the buck with respect (Chapter 6); Renn leaves two pieces of grouse for the clan guardians (Chapter 17).

Core activity: Making tree spirits

- Explain that today we are going to create tree spirits to say goodbye/thank you for the activities over the past few weeks. Pupils can work on their own or in pairs.
- Demonstrate the activity by taking a blob of clay, and sticking it to the trunk of a tree. This can be flattened on to the tree, or shaped into a 'spirit' face.
- This can then be decorated by sticking leaves, twigs, moss, flowers etc into the clay.
- This activity is explained and a photograph of a clay 'tree spirit' can be seen in the Forest Schools Scotland Resource, p107.
- When everyone is finished, or time is up, get everyone together in new groups comprising one person from each group. Get each new group to form a line. One behind the other, the leader guides the line to his/her tree spirit and everyone touches the tree as they pass. The leader then moves to the back of the line, and the next leader leads the line to his/her tree.
- Make sure that all tree spirits are photographed so that you have a record.

Additional activities and variations



Decorations and trails

- Pupils who finish early can be encouraged to make other decorations for their tree – leaf garlands, a trail made of leaves or flowers which leads people towards the tree etc.

Dream catchers

- A variation on the spirit theme would be to make 'dream catchers'. This native American tradition says that if you sleep under a dream catcher, all the bad dreams will be caught in its net. This could be adapted to create 'spirit catchers' to hold back bad spirits or demons and let good ones through. There are many versions of instructions for making dream catchers on the internet.
- Pupils can decorate their dream/spirit catchers with feathers, flowers and other natural objects and leave them to hang in the woods.

Goodbye rituals

- There are many rituals described in the book: death rituals, and hunting rituals, for example. When Renn and Torak go hunting, as part of their preparation they chant: 'May the clan guardian fly/run with me and make the hunt successful' (Chapter 17).
- In their clan groups pupils could make up a 'goodbye' ritual where they thank the wood spirits for the time in the woods, and ask them to take care of the trees, plants and wildlife in the future. This could be a dance, a chant, or a poem. These could then be performed before you leave.

Classroom follow up

- Print out the photographs of the tree spirits and hang them on a branch in the classroom.
- Discuss the rituals which take place in the book: death rituals, hunting rituals, even a naming ritual for Wolf (Chapter 6). Discuss what rituals we have today, on birthdays, at weddings and funerals, at New Year. Why do we have these rituals?
- In groups, pupils could choose a significant life event from Torak's time, and develop a ritual to go with it. This could include music, dance, drama, spoken word.

Looking at the evidence

- How do we know that hunter-gatherers from Torak's time had beliefs and rituals like the ones described in the book?

At Star Carr, a Mesolithic site in Yorkshire archaeologists found a set of deer skulls with the antlers still attached (see image below). These are thought to be ceremonial head-dresses used in rituals rather than a hunting disguise. The skulls had been shaped and perforated holes made to enable them to be tied on. At a later stage, bits of the antlers were removed and reworked probably to create antler points. Some of these finds are now in the British Museum.

No complete human burials of this period have yet been recovered from Scotland. On the island of Oronsay, human finger bones were buried directly on top of seal flippers in a shell midden deposit suggesting some ritual significance. Human burials in caves are known from elsewhere in Britain and there is also wider European evidence for the use of cremation and burial in submerged canoes too. At sites in Southern Scandinavia, people were buried covered in red ochre and with the remnants of clothes decorated with snail shells and perforated deer and dog teeth beads. Some dogs also received special treatment in death. At one Mesolithic cemetery site in Denmark, a baby was found lying on a swan's wing beside a young woman.

If pupils are interested, get them to research some of these finds, and develop their interpretations of the burials and what they might mean. These could be developed into stories describing the event itself or could be presented as a cartoon strip.



Flint scraper



4. Further resources

4.1 Places to visit

Many museums have collections of objects from Mesolithic times found in Scotland. If your museum is close by, you may wish to visit with your class or to encourage your pupils to visit by themselves. It has to be said that many of the objects are only fragmentary and are not in themselves that inspiring.

National Museum of Scotland, Edinburgh www.nms.ac.uk

The Early People gallery has a number of objects from the time of Scotland's first settlers. The Beginnings gallery, which focuses on the formation of Scotland has wonderful wildlife dioramas, showing a tundra landscape of 11,750 years ago, a Lowland oak forest and a Caledonian pine forest, both from 6000 years ago. Look out for the bear (and the snowman!)

Dumfries Museum, Dumfries www.dumgal.gov.uk/museums

Display on the Mesolithic period, and information on local Mesolithic settlement sites. Also pre-history loans box which schools can borrow, containing original artefacts.

Aberdeen Maritime Museum, Aberdeen www.aagm.co.uk

Collection of Mesolithic flints excavated locally.

Kilmartin House Museum, Kilmartin Glen, Argyll www.kilmartin.org

Excellent museum interpreting the many prehistoric sites and monuments of the area – though these are more recent than the Mesolithic. The Museum often runs courses in 'prehistoric technology'.

The McManus Gallery, Dundee www.mcmanus.co.uk

New Landscapes and Lives gallery in the refurbished gallery contains displays of Mesolithic life.

4.2 Books

Wild Harvesters, Bill Finlayson (Birlinn with Historic Scotland, 1998).

An introduction to the lives of the first people in Scotland.

Scotland's Beginnings, Michael A Taylor and Andrew C Kitchener (NMS Publishing, 2007).

A readable introduction to the formation of Scotland's natural environment.

Who were the first people? Phil Roxbee Cox and Struan Reid (Usborne Publishing, 2002).

An appealing short, readable book for children, with lots of illustrations and hidden jokes. Includes internet links on particular topics.

Early People Eyewitness Guide, Nick Merriman (Dorling Kindersley Publishers, 1998).

Lavishly illustrated introduction to early people across the globe. For more able readers.

A teacher's guide to Ancient Technology, Jake Keen (English Heritage, 1996).
Now a little dated in its approach, this booklet provides good details on how to build structures, how to make fire with a bow drill and simple weaving activities.

Seaweed and eat it, Fiona Houston and Xa Milne (Virgin Books, 2008).
A useful and practical book about finding, harvesting and cooking with 'wild' foods.

Flora Celtica, William Milliken and Samuel Bridgewater (Birlinn, 2004).
A wonderful resource demonstrating how people have used and regarded plants and trees in Scotland over the years. Full of oral history, folklore, and even the odd recipe.

Celebrating Nature, Gordon MacLellan, (Capell Bann, 2007).
A wonderful, imaginative book of creative approaches to the natural world.

Sharing Nature with Children, Joseph Cornell (Dawn, 1979).
A classic handbook of nature awareness activities for all ages.



4.3 Websites

Forest Education Initiative www.foresteducation.org

Forest Education Initiative (FEI) aims to increase the understanding and appreciation, particularly among young people, of the environmental, social, and economic potential of trees, woodlands and forests and of the link between the tree and everyday wood products. The website has a library of woodland education resources. FEI operates through local cluster groups – why not join yours?

Outdoor learning: practical guidance, ideas and support for teachers and practitioners in Scotland

Education Scotland 2011 www.educationscotland.gov.uk/resources

A downloadable resource which provides practical, accessible and straightforward advice on how to engage children and young people with learning outdoors.

Scotland's History: Early People

Education Scotland www.ltscotland.org.uk/scotlandshistory/earlypeople

Focus on particular sites around Scotland with links to other relevant websites.

SCRAN www.scran.ac.uk

A searchable database of Scotland's material culture. Images for classroom use, themed resource packs, opportunities for pupils to create their own albums. Invaluable.

CANMORE www.rcahms.gov.uk

The 'Canmore' database holds records and photographs of Scotland's archaeology and buildings. It can be useful in identifying local Mesolithic sites. Pupils may need assistance in using it.

Historic Environment Record (Highlands only) her.highland.gov.uk

This searchable database of archaeological sites in the Highlands can be useful in identifying local Mesolithic sites. In some instances there are photographs and accompanying records for a site. Pupils may need assistance in interpreting data.

Woodland Trust: Nature Detectives www.naturedetectives.org.uk

This website, produced by the Woodland Trust has some fantastic resources to download for free, including seed and leaf identification sheets, games with a seasonal flavour, and a club to join. Check out their 'Leaf i-dial' activity in the Downloads section. Well worth a look.

FEI Forest School Scotland Resource (2009)

A nine-part resource including many ideas and practical advice for working with a variety of groups of young people in the woodlands, as part of a Forest School programme. Downloadable from www.foresteducation.org/news/scotland/downloads

The Woodland Trust: Outdoor learning pack

In collaboration with teachers from West Lothian Council, the Woodland Trust has produced an excellent Outdoor Learning Pack for primary school teachers. This includes useful and practical suggestions, guidance on risk assessment, and tips for making outdoor teaching easier. The pack can be downloaded from their website: www.woodlandtrust.org.uk/en/about-us/projects/bowl

Scottish Natural Heritage www.snh.org.uk/teachingspace/whattodo/woodlandways/
Useful activities for schools.

Michelle Paver www.michellepaver.com

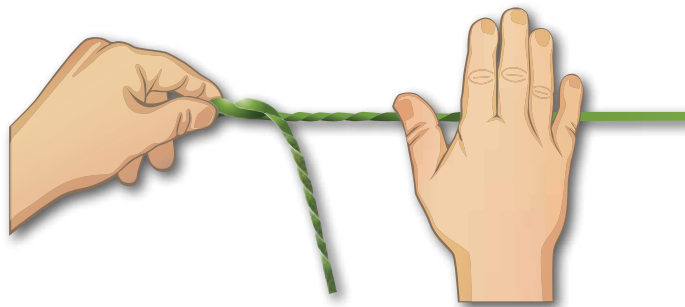
The author's website includes useful features on how she did her research (see the page on *Researching Wolf Brother*).

Oetzi the iceman www.iceman.it

Oetzi is the modern name given to the well-preserved body of a man born around 5,300 years ago in today's Italian Alps. When he died in the mountains, his body and many of his possessions were by chance frozen in ice until he was rediscovered in 1991. Although he is a little more recent than Scotland's early settlers, pupils may well be interested in seeing the items preserved with him, and also in learning of what can be deduced from such items through modern forensic methods. This is the website of the archaeology museum where the objects are on display. It shows all of the objects found with him, and includes many items mentioned in *Wolf Brother* (e.g. arrow, quiver, birch bark containers).

Andrew Goldsworthy www.goldsworthy.cc.gla.ac.uk

Inspirational environmental outdoor artist using natural materials.



5. Appendices

5.1 Appendix 1: Scotland's landscape in Mesolithic times

Scotland 10,000 years ago looked very different to how it does now. And that's not just because there were no towns and cities in those days. In the millennia following the end of the Ice Age, Scotland's climate warmed up and became colonised by plants, trees, animals – and then people.

Glaciation and sea level change

The ice sheets that covered Scotland had an important role in shaping our current landscapes. Glaciers carved our mountains, shaped our glens and created our soils - and when the ice retreated after the Ice Age (about 10,000 years ago) the very height of our landscape changed.

To imagine the weight of the ice sheet over Scotland, place your left hand on the table and press down. Your hand is covering Scotland - and the greatest pressure is under the heel of your palm. The build up of ice over Scotland depressed the level of the earth's crust. The ice was at its thickest over the Western Grampian Mountains (Ben Nevis etc). The weight forced the land down - and when the ice retreated the land sprang back, with the greatest gains where the ice was once at its thickest. Slowly pull your hand away from the table leaving your fingers in place.

This process is known as **isostatic rebound** – and it was accompanied (at a different rate) by rising sea levels as the ice melted. At the end of the last Ice Age the North Sea was dry land – rising sea levels only flooded the landscape about 8,500 years ago.

Both isostatic rebound and sea level rise contributed to a changing Scottish coastline. Coasts that were far from the centre of isostatic rebound tended to see land gradually submerge under the rising sea level; while coasts that were close to the centre of isostatic rebound saw changing relative sea levels (coastlines slowly rising to a post-glacial maximum before gradually regressing). In some areas of the west coast of Scotland **raised beaches** can be seen – relict Mesolithic coastlines now above present sea level.

The coastal environment

The coastal environment of Scotland's west coast was very attractive to Mesolithic hunter-gatherer-fishers. Recently, archaeologists working for Forestry Commission Scotland excavated a possible settlement site at **Barr River**, on Morvern.

The woodland environment

The forests of Torak's time, 10,000 years ago were different to the woodlands we have today. After the ice age, as the temperature rose and the ice melted, Scotland began to be colonised





by plants and animals which had lived on the edge of the ice. In time, this included trees. Different types of trees and woodland thrived in different places, depending on climate, soil and altitude.

There were four main kinds of woodland which covered the land we know today as Scotland:

- Scots pine and birch in the central Highlands
- Birch, hazel and oak in the north east and the inner isles
- Oak, hazel and wych elm in the Lowlands
- Birch and hazel in the north, the west coast and the Northern and Western Isles

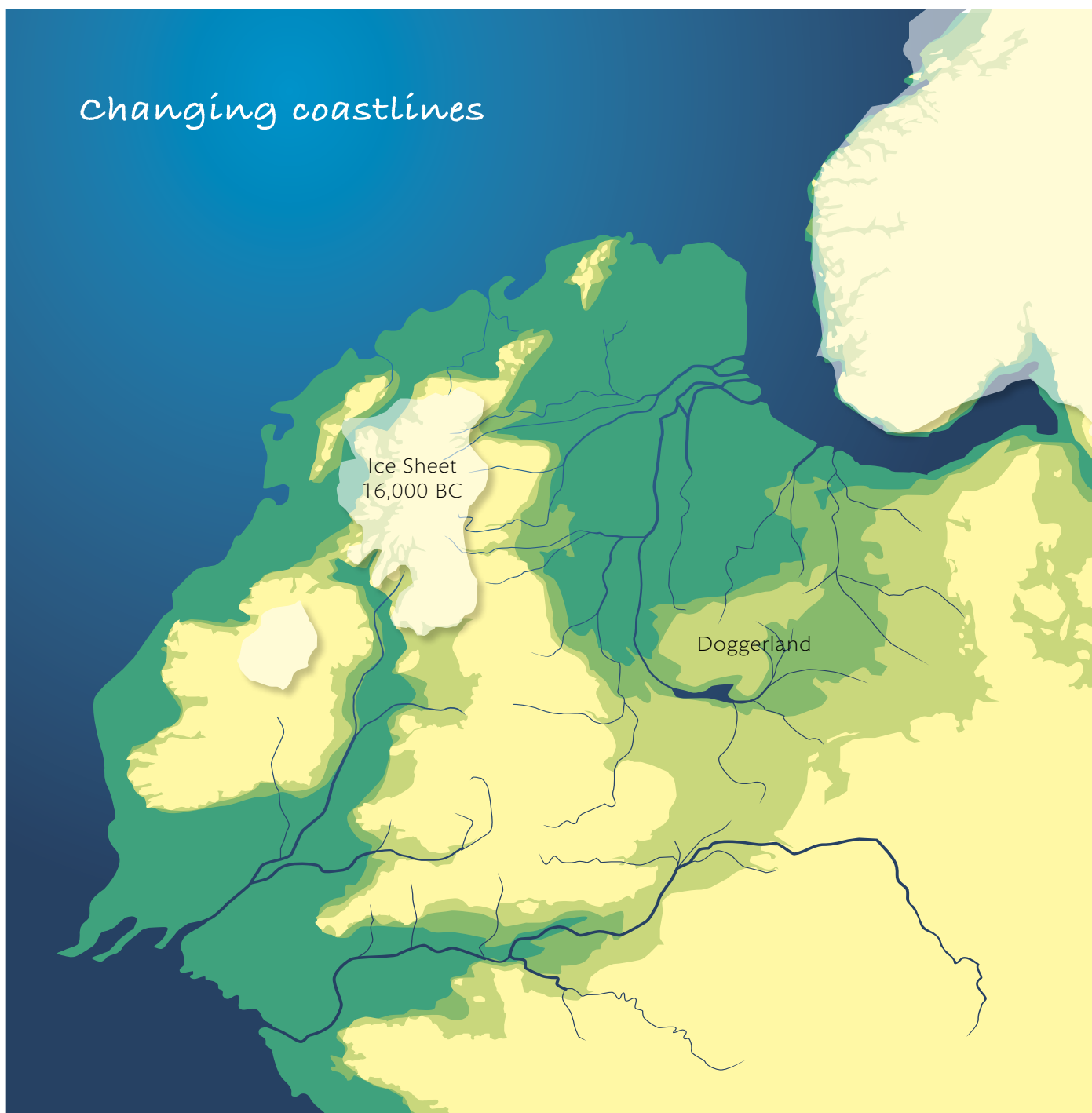
Within these forests lived many of the birds and animal species which feature in *Wolf Brother*, including many which are extinct in Scotland today: wolves, bears, aurochs, beavers, wild boar and lynxes. We know that these animals once existed in Scotland because very occasionally their bones are unearthed.





Since about 4000 BC, Scotland's woodlands have been in decline, mostly because of human activity. Early farmers cleared woodland to grow crops and for building materials. Domestic animals such as cattle and sheep, as well as deer browsed young trees and prevented natural regeneration. As the area under woodland dwindled, animals lost their natural habitats and became easier to hunt, leading to extinction in the cases of most larger mammals.

The Museum of Scotland in Edinburgh has excellent displays showing a Lowland oak forest and a Caledonian pine forest of 6000 years ago, complete with animal species which give a good idea of the variety and richness of woodland landscape as described in the novel.

A simple introduction to the early woodlands of Scotland can be found in *Scotland's Beginnings* (NMS, 2007) by Taylor and Kitchener.

changing coastlines



-  Coastline today
-  7,000 BC Doggerland being flooded by the North Sea
-  8,000 BC Ice melted
-  16,000 BC Ice sheet and land mass



5.2 Appendix 2: The trees of Torak's forest

The trees of Torak's forest are still with us today, unlike some of the animals he encounters. This means that they provide a good physical link between the world of the Mesolithic and 21st century Scotland.

Throughout the millennia, people have learnt to know these trees and recognise and use their unique properties to their advantage. Wood was the fundamental material of the Mesolithic period and was used to satisfy a huge range of needs, from shelter, to fire, to tools and as a source of food.

We recommend that you focus on eight commonly found trees: oak, birch, Scots pine, hazel, alder, willow, rowan and ash.

This section provides brief cultural notes about each species, together with key identification features. Please note that most of the cultural and folklore references are taken from the excellent book *Flora Celtica: Plants and People in Scotland*.

Oak

Oak timbers are the hardest and strongest of all Scottish trees, and was valued for building boats in particular. Dug out canoes made from oak have been found in Scotland, some around 3000 years old. Oak was also favoured for smoking food.

In Chapter 1, Torak stops up his medicine horn with a stopper made from oak.

Birch

Traditionally, it was thought that if a birch leaf was the 'size of a mouse's lug' at Beltane (1st May), then the following harvest would be a good one. Birch bark would have been stripped and used to make mats, wrappings and containers. Birch 'tar', made from the oil obtained by heating bark was used as a glue and even as chewing gum! Birch sap was probably tapped and drunk in the spring.

Torak finds many uses for birch. Its branches are used to build a shelter; its bark for tinder and for making pails and beakers; its 'bast' (the fibres inside the bark) as a bandage and as protection against snow blindness.

Scots pine

Pinewood is light and soft, and is easily shaped. A dug out canoe made from pine was unearthed in Perth which may have dated back to around 7000 BC. Sadly, it no longer survives. Societies living in northern forests in more recent times are known to have eaten the inner bark of the pine tree, regarding it as a valuable seasonal source of carbohydrate; it is possible that Mesolithic people in Scotland did the same.

'Fir candles' were made out of thin splints of Scots pine to provide illumination and to help build a new fire. These were cut from the base of large old trees where resinous, dry dead wood could be found. Torak builds a shelter from spruce, a kind of pine in Chapter 3.



Oak



Birch



Scots Pine



Hazel



Alder



Willow



Rowan



Ash

Hazel

Hazel was very widely used. Its strong, thin, straight branches growing straight from the stump could be used to weave fencing or baskets.

Torak's pack is made of flexible hazel. Hazel nuts are not only food in themselves, but provide the oil which Renn uses to oil her bow.

Alder

Alder is light and strong and was particularly valued for building projects where it might have to be under water – for example in bridge building. It was also used for making small items such as bowls.

Torak uses 'red alder juice' in a naming ceremony for Wolf. His knowledge that alder grows by water helps him to track and kill the deer in Chapter 6.

Willow

Willow was often used for weaving baskets, and may have been used for creating the frame for boats. Deer hide was then stretched over the framework to create a strong, light boat, either round, for use on rivers and lakes or more streamline for seafaring use.

Torak chews on dried willow bark as a medicine. The Raven Clan sit on mats made from woven willow branches, and Renn's quiver is decorated with a zigzag pattern of red and white willow.

Rowan

Rowan is hard and heavy. Traditionally it was used to ward off evil spirits, and even today in some places it is considered bad luck to cut down a rowan tree.

Renn gives Torak a sprig of rowan 'as protection'.

Ash

Ash wood is very hard wearing and durable and was frequently used to form handles, for example of weapons or tools such as axes. It burns very well.

Torak fights Hord with a spear which has a shaft made from ash. Renn's comb is made from ash wood.

General

Knowledge about the properties of each tree and how it could be used was passed on from generation to generation. This could be in the form of poetry or proverbs, to make the information easier to remember.

Pupils could review the information in the following poems, and test whether it's correct. They could even write their own poems about the trees' properties, based on their own experiences.

This Gaelic poem describes which types of wood were suitable for making fire for the autumn festival of Samhainn, and also describes where the trees are commonly be found.

**Choose willow of the streams
Choose hazel of the rocks
Choose alder of the pools
Choose birch of the waterfalls
Choose ash of the shade
Choose yew of resilience
Choose elm of the braes
Choose oak of the sun.**

**Tagh seileach nan allt
Tagh calltainn nan creag
Tagh feàrn nan lòn
Tagh beith nan eas.
Tagh uinnseann na dubhair
Tagh iubhar na leaum
Tagh leamhan na bruthaich
Tagh duire na grèine.**



Oak



Birch



Hazel



Scots Pine



Willow



Alder



Ash



Rowan

This anonymous poem describes how each type of wood burns:

**Beechwood fires are bright and clear
If the logs are kept a year.
Chestnut's only good they say
If for long it's laid away.
Make a fire of elder tree
Death within your house will be.
But ash new or ash old
Is fit for a Queen with a crown of gold.**

**Birch and fir logs burn too fast
Blaze up bright and do not last.
It is by the Irish said
Hawthorn bakes the sweetest bread.
Elmwood burns like churchyard mould
Even the very flames are cold.
But ash green or ash brown
Is fit for a queen with a golden crown.**

**Poplar gives a bitter smoke
Fills your eyes and makes you choke.
Apple wood will scent your room
With an incense-like perfume.
Oaken logs, if dry and old
Keep away the winters cold.
But ash wet or ash dry
A king shall warm his slippers by.**

In springtime, get pupils to check if the oak or the ash comes into leaf first. They could check if the old saying is based in fact, as long-term weather forecasting tool!

**If the oak is out before the ash, then the world will be a splash.
When ash is out before the oak, then the world will be a soak.**

Pupils could also observe different trees of the same species. Do they all 'flush' (come into leaf) at the same time? How much difference is there between the first one to flush and the last? What might cause differences?

The Gaelic alphabet of trees

Traditionally, each of the 18 letters of the Gaelic alphabet was associated with a tree, perhaps to help children remember the alphabet more easily. This clearly shows the importance of trees to Gaelic culture.

LETTER	GAELIC	ENGLISH
A	ailm	elm
B	beith	Birch
C	coll	hazel
D	dair	oak
E	eadha	aspen
F	fearn	alder
G	gort	ivy
H	uath	hawthorn
I	iogh	yew
L	luis	rowan
M	muin	vine
N	nuis	ash
O	onn	gorse
P	peithbhog	downy birch
R	ruis	elder
S	suil	willow
T	teine	holly
U	ur	heather





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